OPERATING AND MAINTENANCE MANUAL

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INSTALLATION,MAINTENANCE & PARTS DATA MANUAL
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INTRODUCTION

THE EFFICIENT AND TROUBLE -FREE OPERATION OF TRAMBEAM MATERIAL HANDLING SYSTEMS DEPENDS ON CORRECT INSTALLATION AND PROPER ADJUSTMENTS. EVERY EFFORT SHOULD BE MADE TO ERECT, MAINTAIN AND OPERATE THE EQUIPMENT IN ACCORDANCE WITH DRAWINGS AND INSTRUCTIONS SO THAT IT WILL FUNCTION PROPERLY AND PROVIDE ALL THE ADVANTAGES BUILT INTO IT BY **TRAMBEAM CORPORATION.**

IT IS RECOMMENDED THAT ERECTORS AND USERS OF TRAMBEAM SYSTEMS BECOME FAMILIAR WITH THE DATA IN THIS MANUAL BEFORE ERECTING THE EQUIPMENT AND PUTTING IT INTO OPERATION.

INSTALLATION AND MAINTENANCE INSTRUCTIONS

CRANE INSTALLATION

GENERAL: Carefully check the material for quantity against the packing lists accompanying shipment and visually inspect all parts for damage in transit.

Before actual assembly of the crane is started, the erection foreman should study the building to determine how much of the equipment can be assembled on the floor prior to erection. Runway span checked at several points along the entire length. This can best be accomplished by dropping a plumb line from the rails to the floor and measuring the distance between runways with true span of the crane measured at the center of the end truck mounting pads on the bridge beams. A tolerance of 1/8" is allowable.

FOUR WHEEL END TRUCKS that do not have split heads must be installed on the runway at the end of a beam. Those with split heads can be installed anywhere on the run. Determine the proper location and position of the end trucks and beam from the match markings and direction markings on the trucks and bridge. Raise the bridge beam and bolt securely in position.

EIGHT WHEEL END TRUCKS are installed similar to the above, except the four wheel carrier units, which are shipped separate. These four wheel units should be secured to end truck loadbar (see Fig 1 below for suggested method) before installed on runway.

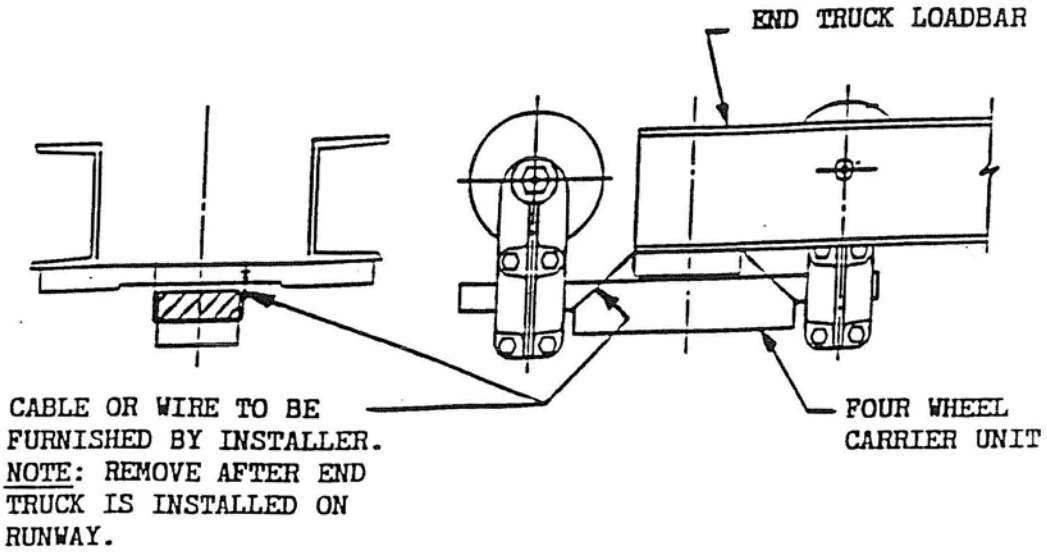


FIG. 1

AN ALTERNATE METHOD for installing TRAMBEAM CRANES is to assemble the crane complete on the floor with one length of runway beam run through each end truck. The end trucks are then made secure on the lengths of runway beam and the entire assembly is raised and the runways bolted in place. End Stops should be bolted in place on the runways when the crane is in place and on the crane when the hoist carrier is in place.

ELECTRIFICATION: Electrification of crane bridges, include the mounting of support brackets, conductor bars, current collectors, and miscellaneous wiring. For detailed instructions, see Bridge Conductor Bar drawings.

MOTORIZATION: See appropriate "PF" sheets and Motor Data.

MAINTENANCE AND LUBRICATION

A regular inspection of the crane equipment is recommended. The frequency of these inspections should range from two to four months, depending on the type of service to which the equipment is subjected.

Check all bolted connections for tightness and inspect running condition of wheels on runways. If crane is electrified, check electrical components, including the alignment of conductor bars and collector operation. When crane operated outside of buildings or in a corrosive atmosphere, proper protection of the crane is indicated. Repaint any exposed bare surface as needed. Crane parts requiring lubrication should be serviced periodically to insure satisfactory operation. End truck wheels should be lubricated at crane inspection time with a good grade of grease (Alemite No. 38 or equal). Carrier head trunnions of end truck load bars must be kept free in the bushings, and lubricated with a good quality oil.

INTERLOCKS: If cranes are furnished with interlocks, a careful mounting and adjustment of interlock mechanism, as outlined on pages D9-R1 & D9-R2 will insure trouble-free operation.

When runways serve direct interlocking cranes and are suspended with hanger rods, it is advisable to tie the two adjacent runways with a structural cross tie to maintain exact centers and to control clearances when cranes are passing each other, or traveling while locked together. See Fig. 11 of drawing U86876 for illustration.

CRANE RUNWAY BEAMS are furnished cut to exact length and marked as designated on lay-out drawings to show where they are installed.

MONORAIL SWITCHES in a system must be installed and leveled first. A switch suspended by hanger rods should be braced in two directions for stability. Start rail installation at switch, work towards ends of track, bolting the rail, straight or curved, to the switches, making sure that the treads are level and aligned. Light shimming of rail support under the switch frame will provide any necessary adjustment. A clearance of 3/16'' plus or minus 1/16'' between ends of moving rail and stationary track must be maintained.

TYPE 1, 11° TONGUE SWITCH

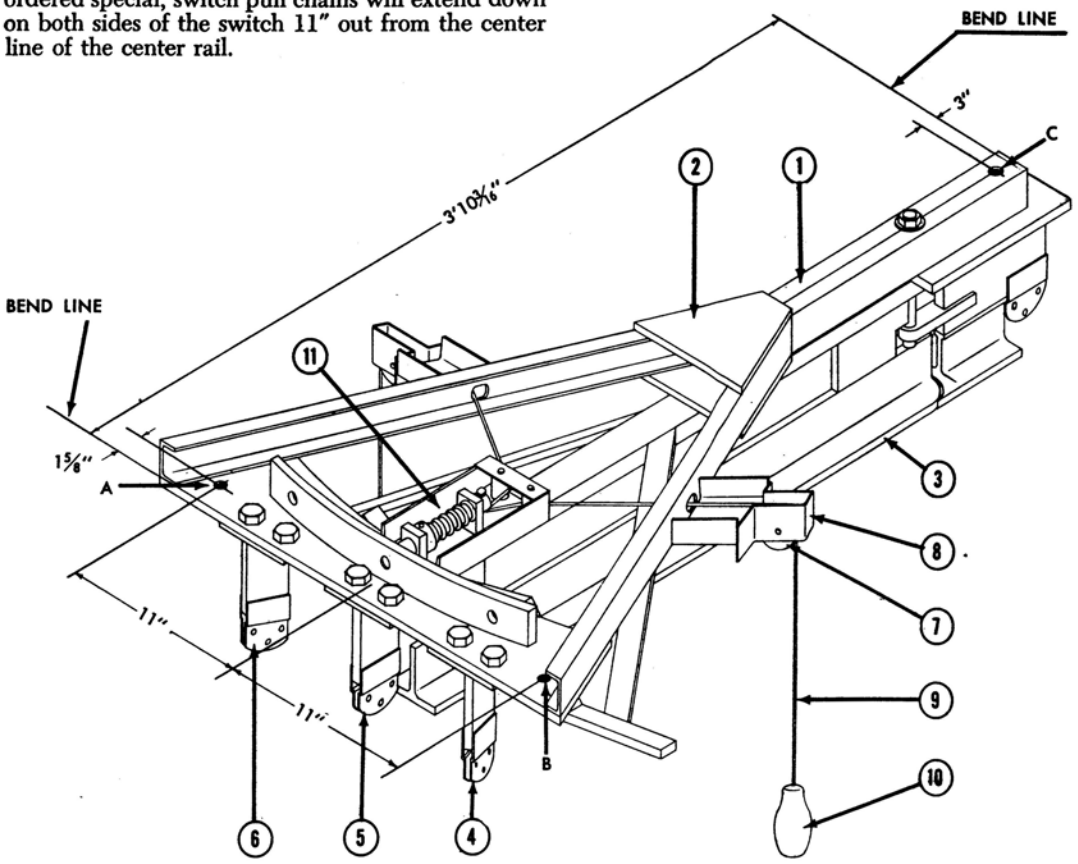
Type 1, Tongue Switch

3000 LBS. CAPACITY*

Install at elevation and location shown on plan. Screw hanger rods into tapped holes A, B and C. Level switch, making sure load is distributed on all hanger rods. Install connecting rails and curves. When connecting Trambeam to this switch, remove rail supports Nos. 4, 5 and 6 and bolt top flange directly to switch frame. The incoming rail at the tail of the switch must be coupled tight, level and in line. The incoming rails at the moving end of the switch must be level and in line with the tongue when latched and have 7/16" clearance from the moving rail.

Switch must be braced in field to prevent lateral or longitudinal movement. Switch pull chains should be cut to desired length after switch is hung. Unless ordered special, switch pull chains will extend down on both sides of the switch 11" out from the center line of the center rail.

Sliding shoe at open end of tongue and latch pin require periodic lubrication with an open gear type lubricant, Alemite No. 329 or equal. The hinge pin should be oiled occasionally to prevent binding.



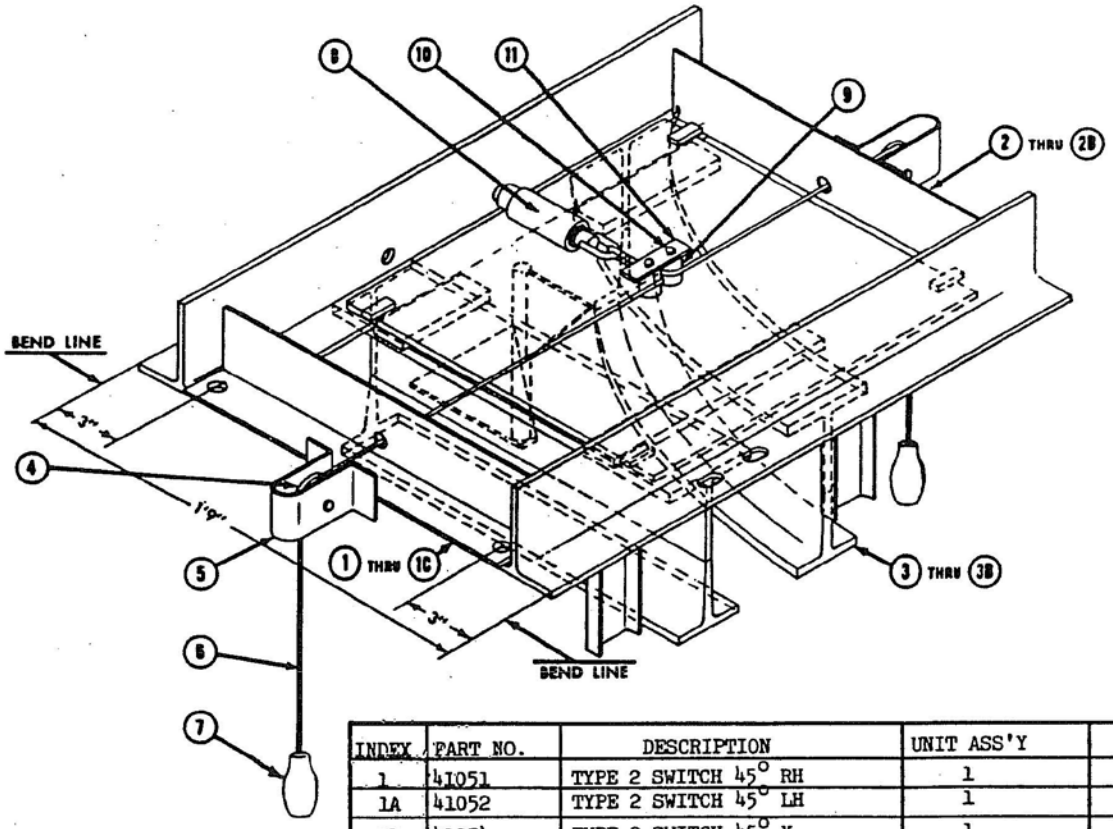
INDEX	PART NO.	DESCRIPTION	UNIT ASS'Y.	REMARKS
1	41-1	TYPE 1 SWITCH RH, LH OR 3-WAY	1	
2	41-1165	FRAME TOP ASS'Y.	1	
3	41-1110	FRAME BOTTOM ASS'Y.	1	
4	41-1167-2	RAIL SUPPORT, LH	1	
5	41-1167-1	RAIL SUPPORT, STRAIGHT	1	
6	41-1167-3	RAIL SUPPORT, RH	1	
7	41-1165-2	SHEAVE	2	
8	41-1165	SHEAVE BRKT. ASS'Y.	2	
9	41-1-4	ROPE 10'-0"	2	SPECIFY REQ'D LENGTH
10	41-1026	HANDLE	2	
11	41-1008	LATCH ASS'Y.	1	

*Capacity rating for No. 1 switch based on 1500 lbs. maximum loading per carrier head.

PARTS LIST
TYPE 2, 45° SLIDING SWITCH
3000 LBS. RATED LOAD *

Install switch at elevation and location shown on plans. Type 2 switches are suspended by bolting direct to the superstructure using four 3/4" diameter bolts (recommended method) or by four 3/4" diameter hanger rods. When suspended from rods, the switch is braced laterally and longitudinally to maintain alignment. Bolt beams to stationary frame with 5/8" N.F. heat treated bolts, using shims to obtain correct level with moving rail. There should be 3/16" gap between the movable rails and the stationary rails. Slotted holes in the stationary frame allow for some lateral adjustment of the beams and curves. Switch ropes should be cut to desired length after switch is hung. Unless ordered special, switch pull ropes will extend down on both sides of the switch out 1'-1" from the centerline of the monorail on the straight side and 1'-7" on the curve side.

The track for the sliding portion of the switch and the latch pin require periodic lubrication with an open gear type lubricant, Alemite No. 329 or equal.



INDEX	PART NO.	DESCRIPTION	UNIT ASS'Y	REMARKS
1	41051	TYPE 2 SWITCH 45° RH	1	
1A	41052	TYPE 2 SWITCH 45° LH	1	
1B	41054	TYPE 2 SWITCH 45° Y	1	
1C	41053	TYPE 2 SWITCH 45° 3-WAY	1	
2	4101152	STATIONARY FRAME	1	45° LH OR RH
2A	4101156	STATIONARY FRAME	1	45° Y
2B	4101154	STATIONARY FRAME	1	3-WAY 45°
3	4101153	SLIDING FRAME	1	45° LH OR RH
3A	4101157	SLIDING FRAME	1	45° Y
3B	4101155	SLIDING FRAME	1	3-WAY 45°
4	4101031	SHEAVE	2	
5	4101165	SHEAVE BRKT. ASS'Y	2	
6		ROPE	2	SPECIFY REQ'D LENGTH
7	4101026	HANDLE	2	
8	4101161	LATCH ASS'Y	1	
9	410115309	GUIDE ROLLER	1	
10	4101153010	GUIDE ROLLER PIN	1	
11	410115308	GUIDE ROLLER BAR	1	

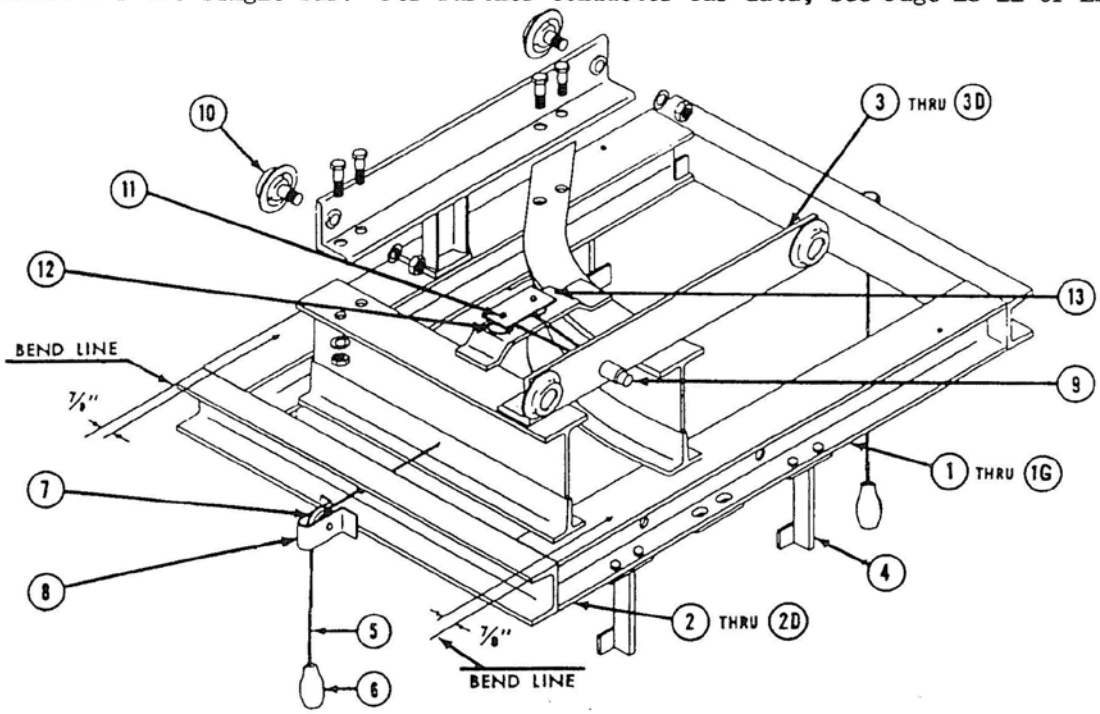
* Rated Load for No. 2 Switch based on 1500 lbs. maximum loading per carrier head.

PARTS LIST
TYPE 3, SLIDING SWITCH
4000 LBS. RATED LOAD *

Install switch at elevation and location shown on plans. Type 3 switches are suspended by bolting direct to the superstructure using four 3/4" diameter bolts (recommended method) or by four 3/4" diameter hanger rods. When suspended from rods, the switch is braced laterally and longitudinally to maintain alignment. Bolt beams to stationary frame with 5/8" N.F. heat treated bolts, using shims to obtain correct level with moving rail. There should be 3/16" gap between the movable rails and the stationary rails. Slotted holes in the stationary frame allow for some lateral adjustment of the beams and curves. Switch ropes should be cut to desired length after switch is hung. Unless ordered special, switch pull ropes will extend down on both sides of the switch out 1'-9" from the centerline of the monorail on the straight side and 2'-9" on the curve side of a 11" throw switch, out 1'-11-1/2" from the centerline of rail on straight side and 3'-4" on curve side of 14" throw switch.

Switch roller wheels are equipped with zerk fittings and require periodic lubrication with Alemite No. 38 or equal. Latch pin should be lubricated with an open gear type grease, Alemite No. 329 or equal.

ELECTRIFIED SWITCH - These units can be electrified and when furnished for electrified systems are equipped with a jumper harness that supplies current to the movable portion of the switch and power leads for supplying current to, or receiving current from the adjoining conductor bars. All of these leads must be connected in the proper fashion, depending on the type of conductor bar used. All incoming conductor bars must be in perfect vertical and horizontal alignment with the bars on the movable part of the switch. Care must be taken to phase these connections properly with the rest of the system. When three-bar switches are installed, care must be taken to determine which side of the monorail has the single bar. For further conductor bar data, see Page ES-11 or ES-21.



INDEX	PART NO.	DESCRIPTION	UNIT ASS'Y	REMARKS
1	41042	TYPE 3 SWITCH 30°RH 11" THROW	1	ELECTRIFIED 410342
1A	41043	TYPE 3 SWITCH 30°LH 11" THROW	1	ELECTRIFIED 410343
1B	41045	TYPE 3 SWITCH 30°'Y'11" THROW	1	ELECTRIFIED 410345
1C	41044	TYPE 3 SWITCH 30°3-WAY 11" "	1	ELECTRIFIED 410344
1D	41056	TYPE 3 SWITCH 30°LH 14" THROW	1	ELECTRIFIED 410356
1E	41057	TYPE 3 SWITCH 30°RH 14" THROW	1	ELECTRIFIED 410357
1F	41058	TYPE 3 SWITCH 30°3-WAY 14" "	1	ELECTRIFIED 410358
1G	41059	TYPE 3 SWITCH 30°'Y'14"THROW	1	ELECTRIFIED 410359
2	4101188CAD	STATIONARY FRAME RH & LH	1	30° RH or LH
2A	4101180	STATIONARY FRAME	1	30° 'Y'
2B	4101179	STATIONARY FRAME	1	3-WAY 30°
2C	4101185CAD	STATIONARY FRAME RH & LH	1	30°RH or LH 14" THROW
2D	4101189	STATIONARY FRAME	1	3-WAY 30° 14" THROW
3	4101163CAD	SLIDING FRAME RH & LH	1	30° RH or LH

INDEX	PART NO.	DESCRIPTION	UNIT ASS'Y	REMARKS
3A	4101178	SLIDING FRAME	1	30° 'Y'
3B	4101177	SLIDING FRAME	1	3-WAY 30°
3C	4101187CAD	SLIDING FRAME RH & LH	1	30°RH or LH 14" THROW
3D	4101190	SLIDING FRAME	1	3-WAY 30° 14" THROW
4	4101166	RAIL STOP	4	
5		ROPE	2	SPECIFY REQ'D LENGTH
6	4101026	HANDLE	2	
7	4101031	SHEAVE	2	
8	4101165	SHEAVE BRKT. ASS'Y	2	
9	4101161	PIN LATCH ASS'Y	1	
10	10073	WHEEL	4	
11	4101163013	PIN GUIDE ASS'Y	2	
12	4101031	SHEAVE	2	
13	4101163014	BAR GUIDE ASS'Y	1	

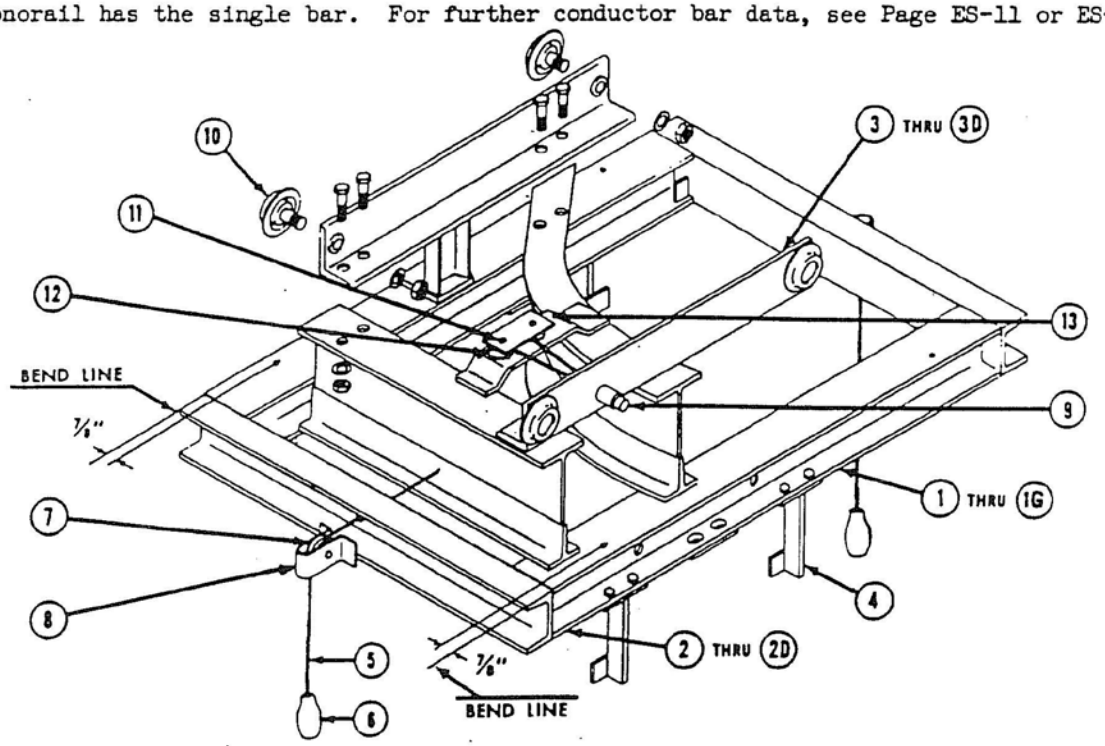
*Rated Load for No. 3 Switch based on 2000 Lbs. Maximum loading per carrier head.

PARTS LIST
TYPE 3, SLIDING SWITCH
4000 LBS. RATED LOAD *

Install switch at elevation and location shown on plans. Type 3 switches are suspended by bolting direct to the superstructure using four 3/4" diameter bolts (recommended method) or by four 3/4" diameter hanger rods. When suspended from rods, the switch is braced laterally and longitudinally to maintain alignment. Bolt beams to stationary frame with 5/8" N.F. heat treated bolts, using shims to obtain correct level with moving rail. There should be 3/16" gap between the movable rails and the stationary rails. Slotted holes in the stationary frame allow for some lateral adjustment of the beams and curves. Switch ropes should be cut to desired length after switch is hung. Unless ordered special, switch pull ropes will extend down on both sides of the switch out 1'-9" from the centerline of the monorail on the straight side and 2'-9" on the curve side of a 11" throw switch, out 1'-11-1/2" from the centerline of rail on straight side and 3'-4" on curve side of 14" throw switch.

Switch roller wheels are equipped with zerk fittings and require periodic lubrication with Alemite No. 38 or equal. Latch pin should be lubricated with an open gear type grease, Alemite No. 329 or equal.

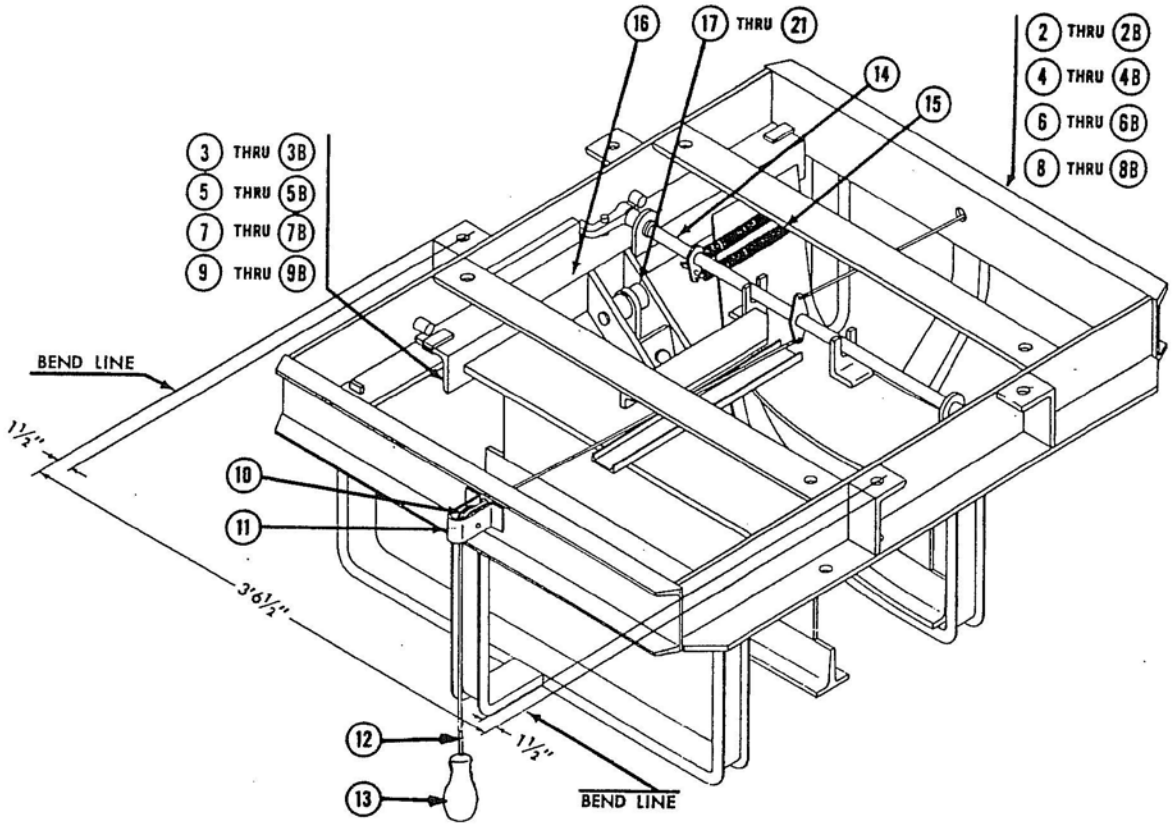
ELECTRIFIED SWITCH - These units can be electrified and when furnished for electrified systems are equipped with a jumper harness that supplies current to the movable portion of the switch and power leads for supplying current to, or receiving current from the adjoining conductor bars. All of these leads must be connected in the proper fashion, depending on the type of conductor bar used. All incoming conductor bars must be in perfect vertical and horizontal alignment with the bars on the movable part of the switch. Care must be taken to phase these connections properly with the rest of the system. When three-bar switches are installed, care must be taken to determine which side of the monorail has the single bar. For further conductor bar data, see Page ES-11 or ES-21.

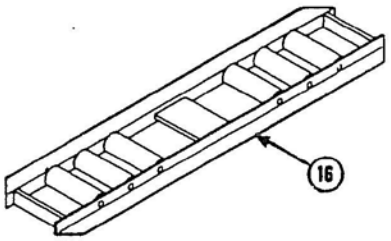


INDEX	PART NO.	DESCRIPTION	UNIT ASS'Y	REMARKS
1	41042	TYPE 3 SWITCH 30°RH 11" THROW	1	ELECTRIFIED 410342
1A	41043	TYPE 3 SWITCH 30°LH 11" THROW	1	ELECTRIFIED 410343
1B	41045	TYPE 3 SWITCH 30°'Y'11" THROW	1	ELECTRIFIED 410345
1C	41044	TYPE 3 SWITCH 30°3-WAY 11" "	1	ELECTRIFIED 410344
1D	41056	TYPE 3 SWITCH 30°RH 14" THROW	1	ELECTRIFIED 410356
1E	41057	TYPE 3 SWITCH 30°LH 14" THROW	1	ELECTRIFIED 410357
1F	41058	TYPE 3 SWITCH 30°3-WAY 14" "	1	ELECTRIFIED 410356
1G	41059	TYPE 3 SWITCH 30°'Y'14"THROW	1	ELECTRIFIED 410359
2	4101188C&D	STATIONARY FRAME RH & LH	1	30° RH or LH
2A	4101180	STATIONARY FRAME	1	30° 'Y'
2B	4101179	STATIONARY FRAME	1	3-WAY 30°
2C	4101185C&D	STATIONARY FRAME RH & LH	1	30°RH or LH 14" THROW
2D	4101189	STATIONARY FRAME	1	3-WAY 30° 14" THROW
3	4101163C&D	SLIDING FRAME RH & LH	1	30° RH or LH

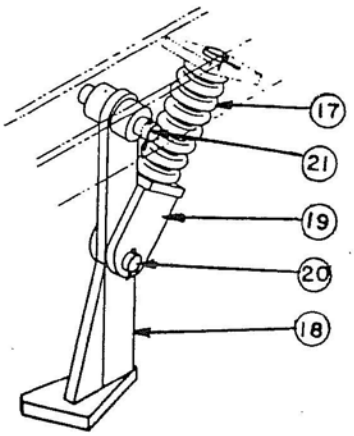
INDEX	PART NO.	DESCRIPTION	UNIT ASS'Y	REMARKS
3A	4101178	SLIDING FRAME	1	30° 'Y'
3B	4101177	SLIDING FRAME	1	3-WAY 30°
3C	4101187C&D	SLIDING FRAME RH & LH	1	30°RH or LH 14" THROW
3D	4101190	SLIDING FRAME	1	3-WAY 30° 14" THROW
4	4101166	RAIL STOP	4	
5		ROPE	2	SPECIFY REQ'D LENGTH
6	4101026	HANDLE	2	
7	4101031	SHEAVE	2	
8	4101165	SHEAVE BRKT. ASS'Y	2	
9	4101161	PIN LATCH ASS'Y	1	
10	10275	WHEEL & AXLE ASS'Y.	4	
11	4101163013	PIN GUIDE ASS'Y	2	
12	4101031	SHEAVE	2	
13	4101163014	BAR GUIDE ASS'Y	1	

*Rated Load for No. 3 Switch based on 2000 Lbs. Maximum loading per carrier head.





SWITCH SLIDING FRAME ROLLER



SWITCH BUMPER ASSEMBLY

INDEX	PART NO.	DESCRIPTION	UNIT ASS'Y	TYPE	REMARKS
2	4101142C&D	STATIONARY FRAME	1	4	30°LH or RH 11" THROW
2A	4101006C	STATIONARY FRAME	1	4	30° 'Y' 11" THROW
2B	4101170	STATIONARY FRAME	1	4	30° 3-WAY 11" THROW
3	4101143C&D	SLIDING FRAME	1	4	30°LH or RH 11" THROW
3A	4101005C	SLIDING FRAME	1	4	30°'Y' 11" THROW
3B	4101171	SLIDING FRAME	1	4	30°3-WAY 11" THROW
4	4101200C&D	STATIONARY FRAME	1	4	30°LH or RH 14" THROW
4A	4101206C	STATIONARY FRAME	1	4	30° 'Y' 14" THROW
4B	4101276	STATIONARY FRAME	1	4	30° 3-WAY 14" THROW
5	4101201C&D	SLIDING FRAME	1	4	30°LH or RH 14" THROW
5A	4101207C	SLIDING FRAME	1	4	30°'Y' 14" THROW
5B	4101278	SLIDING FRAME	1	4	30° 3-WAY 14" THROW
6	4101142E&F	STATIONARY FRAME	1	5	30° LH or RH 11" THROW
6A	4101006D	STATIONARY FRAME	1	5	30° 'Y' 11" THROW
6B	4101204	STATIONARY FRAME	1	5	30° 3-WAY 11" THROW
7	4101143E&F	SLIDING FRAME	1	5	30° LH or RH 11" THROW
7A	4101105D	SLIDING FRAME	1	5	30° 'Y' 11" THROW
7B	4101205	SLIDING FRAME	1	5	30° 3-WAY 11" THROW
8	4101200E&F	STATIONARY FRAME	1	5	30° LH or RH 14" THROW
8A	4101206D	STATIONARY FRAME	1	5	30° "Y' 14" THROW
8B	4101277	STATIONARY FRAME	1	5	30° 3-WAY 14" THROW
9	4101201E&F	SLIDING FRAME	1	5	30° LH or RH 14"THROW
9A	4101207D	SLIDING FRAME	1	5	30° 'Y' 14" THROW
9B	4101279	SLIDING FRAME	1	5	30° 3-WAY 14" THROW
10	4101031	SHEAVE	2	4&5	
11	4101165	SHEAVE BRKT. ASS'Y	2	4&5	
12		PULL CHAIN	2	4&5	SPECIFY REQ'D LENGTH
13	4101026	HANDLE	2	4&5	
14	4101003	LATCH BRKT. ASS'Y	1	4&5	
15	480007	TENSION SPRING	2	4&5	FOR ALL LATCH ASS'YS
16	4101151	ROLLER ASS'Y	4	4&5	(6) REQ'D ON 3-WAY SW
17	480008	BUMPER SPRING	1	4&5	(2) REQ'D ON Y&3-WAY
18	4101101064&7	BUMPER BAR RH or LH	1	4&5	4101173012 'Y' SW
19	410110102	SPRING BAR	1	4&5	(2) REQ'D ON 'y'& 3-WAY
20	410110103	PIN SPRING BAR	1	4&5	(2) REQ'D ON 'Y'& 3-WAY
21	410110104	PIN BUMPER BAR	1	4&5	(2) REQ'D ON 'Y'& 3-WAY

Install switch at elevation and location shown on plans. Type 4 & 5 switches are suspended by bolting direct to the superstructure using four 3/4" diameter bolts (recommended method) or by four 3/4" diameter hanger rods. When suspended from rods, the switch is braced laterally and longitudinally to maintain alignment. Bolt beams to stationary frame with 3/4" N.F. heat treated bolts, using shims to obtain correct level with moving rail. There should be 3/16" gap between the movable rails and the stationary rails. Slotted holes in the stationary frame allow for some lateral adjustment of the beams and curves. Switch chains should be cut to desired length after switch is hung. Unless ordered special, switch pull chains will extend down on both sides of the switch out 1'-7" from the centerline of the monorail on the straight side and 2'-8" on the curve side of a 11" throw switch, out 1'-10" from the centerline of rail on straight side and 2'-11" on curve side of 14" throw switch.

Lubricate sliding frame roller with an open gear type grease, Alemite No. 329 or equal. Oil latch mechanism.

ELECTRIFIED SWITCH - These units can be electrified and when furnished for electrified systems are equipped with a jumper harness that supplies current to the movable portion of the switch and power leads for supplying current to, or receiving current from the adjoining conductor bars. All of these leads must be connected in the proper fashion, depending on the type of conductor bar used. All incoming conductor bars must be in perfect vertical and horizontal alignment with the bars on the movable part of the switch. Care must be taken to phase these connections properly with the rest of the system. When three-bar switches are installed, care must be taken to determine which side of the monorail has the single bar. For further conductor bar data, see Page ES-11 or ES-21.

MAXIMUM CAPACITIES*

NO. 4—30°..... 8,000 LBS.

NO. 5—30°.....12,000 LBS.

PART NO.	DESCRIPTION	CARRIER HD. LOADING	ELECTRIFIED PART NO.
41012	TYPE 4 SWITCH 30° RH	2200#	410312
41013	TYPE 4 SWITCH 30° LH	2200#	410313
41020	TYPE 4 SWITCH 30° 'Y'	2200#	410320
41016	TYPE 4 SWITCH 30° 3-WAY	2000#	410316
41024	TYPE 5 SWITCH 30° RH	5000#	410324
41025	TYPE 5 SWITCH 30° LH	5000#	410325
41032	TYPE 5 SWITCH 30° 'Y'	5000#	410332
41028	TYPE 5 SWITCH 30° 3-WAY	5000#	410328

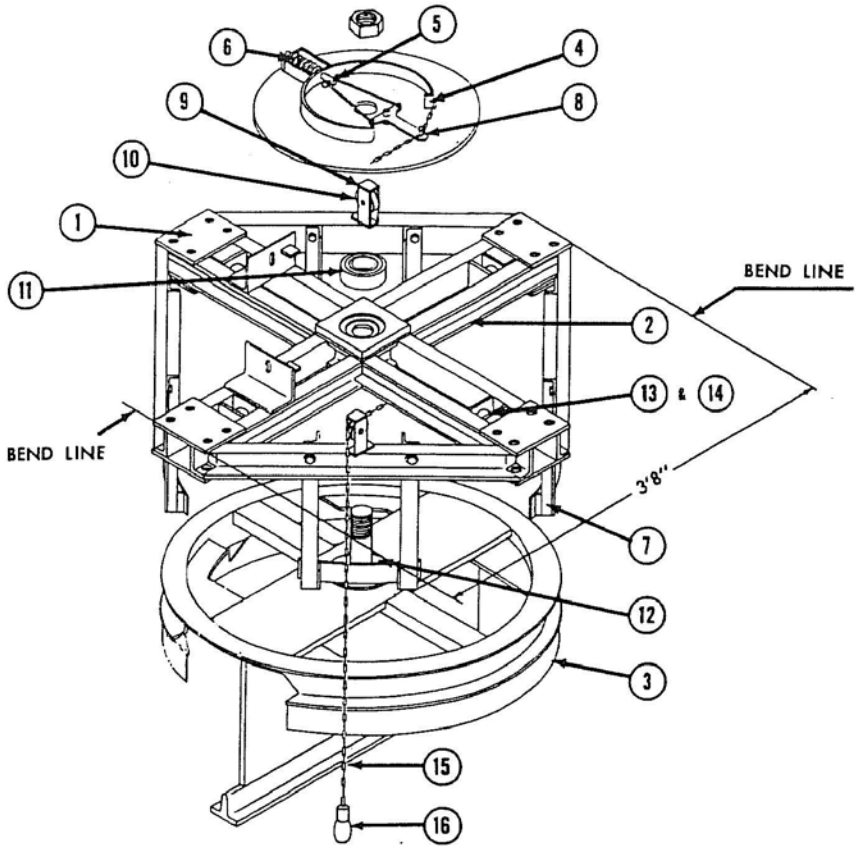
* RATED LOAD FOR NO. 4-30° SWITCH BASED ON 2200 LBS. MAX. LOADING PER CARRIER HEAD.

* RATED LOAD FOR NO. 5-30° SWITCH BASED ON 5000 LBS. MAX. LOADING PER CARRIER HEAD.

Install crossover or turntable at elevation and location shown on plans. If this unit is to be bolted rigid, it must be spaced down to allow clearance for the latching mechanism. If this unit is fexibly supported, it must be braced to prevent lateral and longitudinal movement. Incoming rails shall be bolted to the stationary frame with four 5/8 inch N.F. heat treated bolts, using shims to obtain correct level with movable rail.

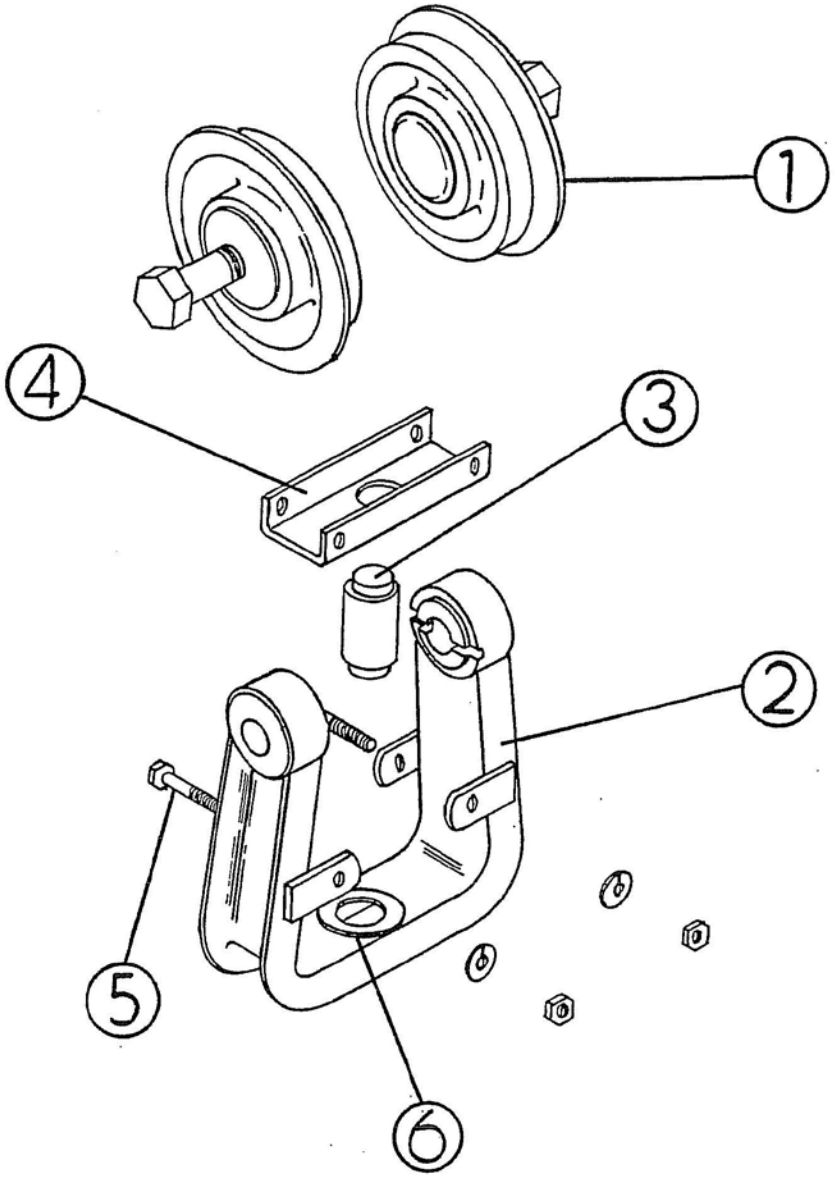
Roller pins are equipped with zerk fittings and require periodic lubrication with Alemite NO. 38 or equal. Main bearing is packed at the factory and should not require additional lubrication. Lubricate latch pin with a open gear type grease, Alemite NO. 329 or equal.

ELECTRICATION- These units can be electrfied and when furnished for electrified systems are equipped with a jumper harness that supplies current to the movable portion of the switch and power leads for supplying current to, or receiving current from, the adjoining conductor bars. All of these leads must be connected in the proper fashion, depending on the type of conductor bar used. All incoming conductor bars must be in perfect vertical and horizontal alignment with the bars on the movable part of the switch. Care must be taken to phase these connections properly with the rest of the system. When three-bar switches are installed, care must be taken to determine which side of the monorail has the single bar.

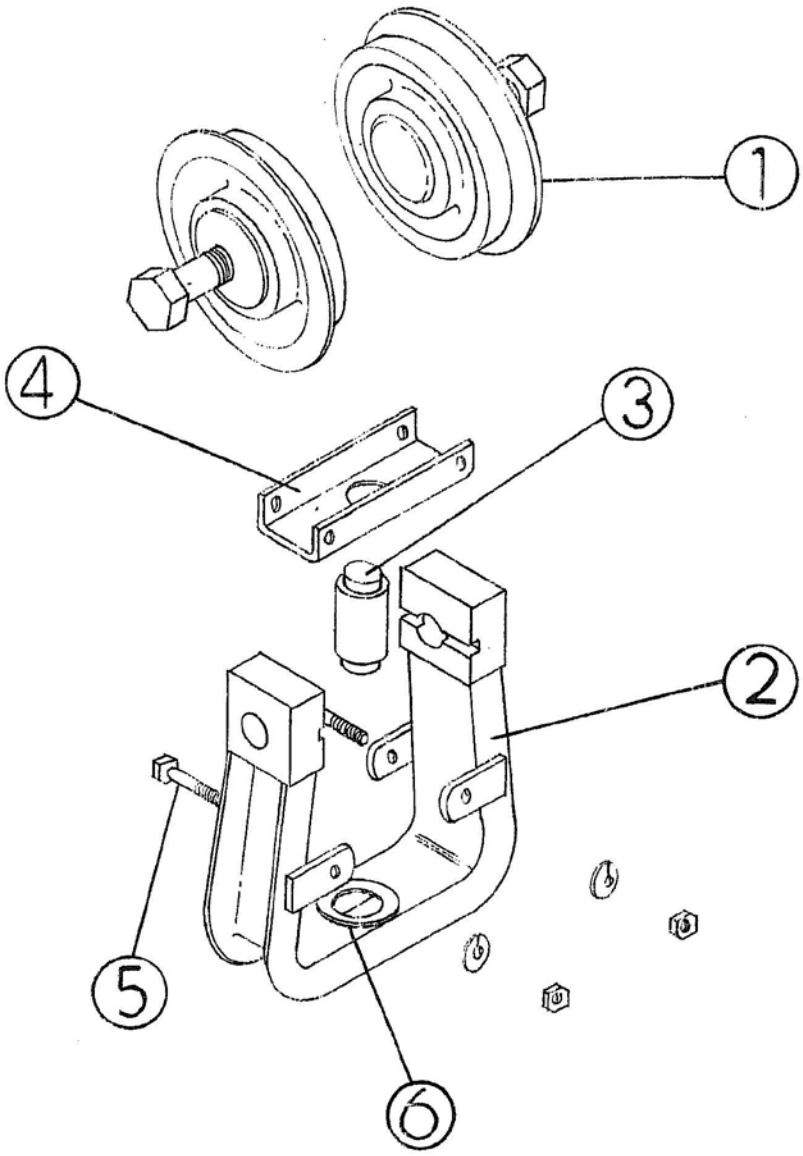


INDEX NO.	PART NO.	DESCRIPTION	UNIT ASSY.	REMARKS
1	41046	TURNTABLE 4000# RATED LOAD	1	410346 ELECTRIFIED
1	41050	CROSSOVER 4000# RATED LOAD	1	410350 ELECTRIFIED
2	4101077	STATIONARY FRAME	1	
3	4101079	ROTATING FRAME	1	
4	4101078	ROTOR	1	
5	4101091	LATCH PIN	1	
6	4101093	LATCH SPRING	1	
7	410107702	RAIL STOP	2	NOT REQ'D. ON 41050
8	4101092	LEVER ARM	1	

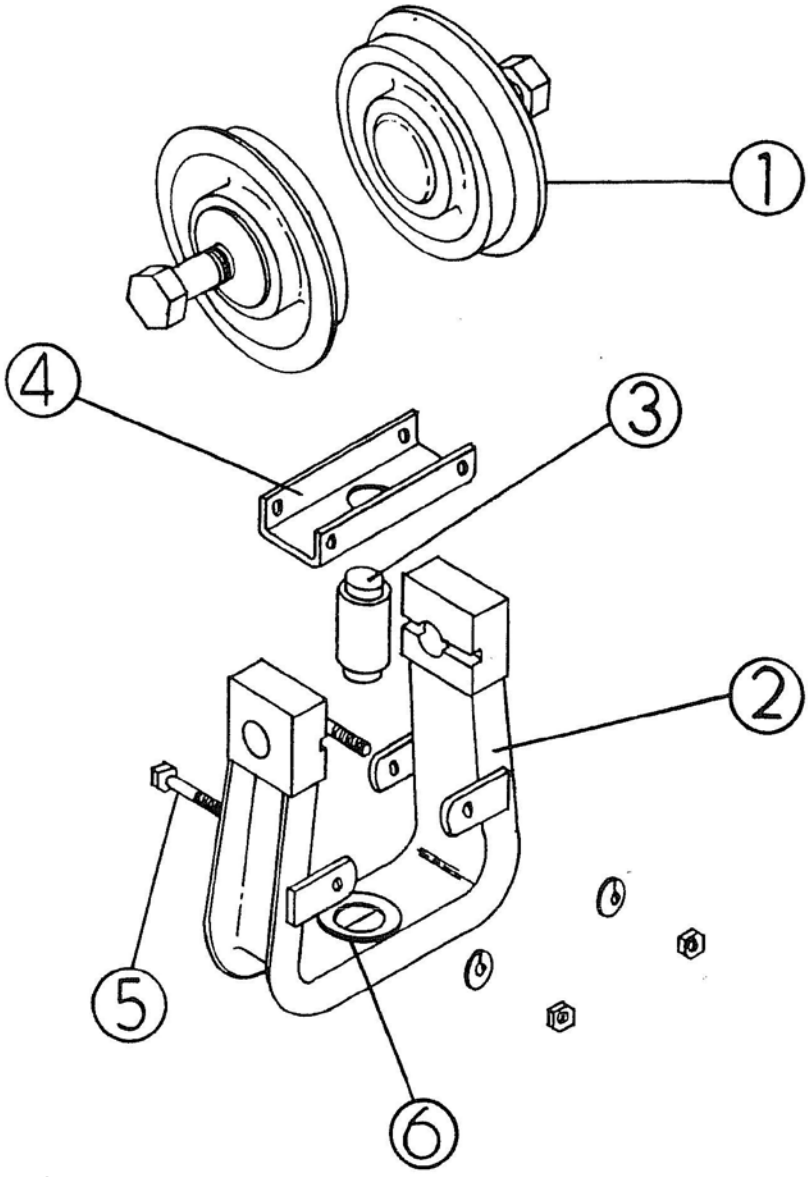
INDEX NO.	PART NO.	DESCRIPTION	UNIT ASSY.	REMARKS
9	4101084	SHEAVE BRKT. ASSY.	2	
10	4101031	SHEAVE	2	
11	41050F	BEARING	1	
12	41050E	BRONZE WASHER	1	
13	28017	ROLLER	4	
14	2601041	ROLLER PIN	4	
15	41050	CHAIN 12'-0 LG.	2	SPECIFY LGTH. REQ'D
16	4101026	HANDLE	2	



REF. NO.	PART NO.	PART DESCRIPTION	QTY.
1	010271	5" Dia. Wheel Assembly	2
2	0102043	Yoke	1
3	0102050	Trunnion	1
4	010100102	Crossbar	1
5	680375300	Capscrew 3/8-16 x 3 w/Nut & Lockwasher	2
6	010100104	Bronze Washer	1

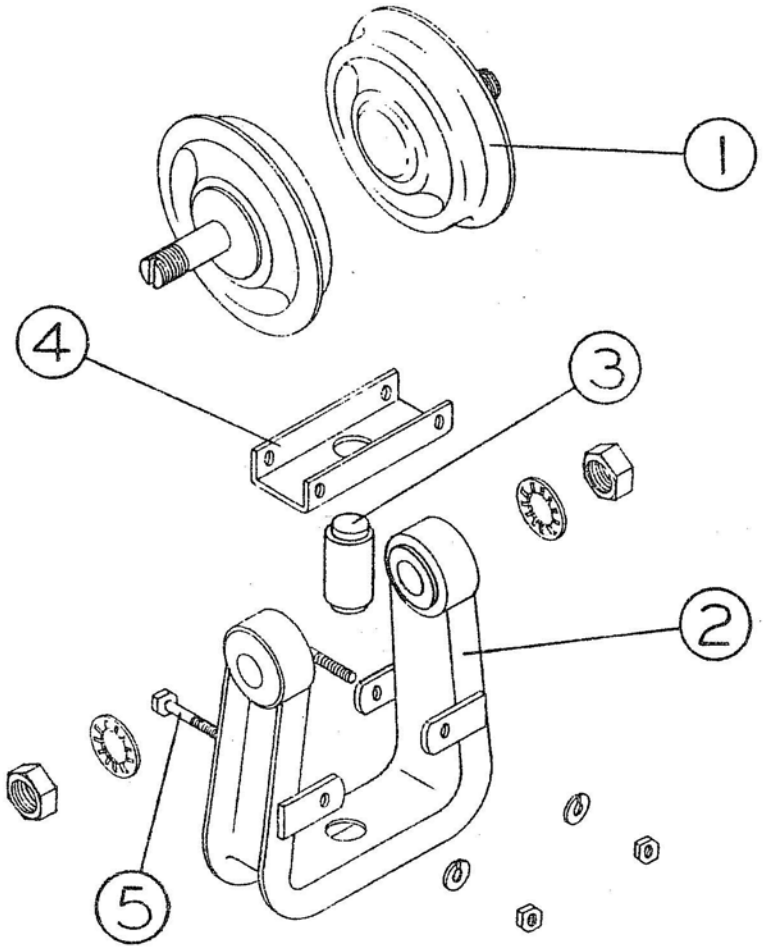


REF. NO.	PART NO.	PART DESCRIPTION	QTY.
1	010272	5" Dia. Wheel Assembly	2
2	0102037	Yoke	1
3	0102050	Trunnion	1
4	0102034	Crossbar	1
5	680375400	Capscrew 3/8-16 x 4 w/Nut & Lockwasher	2
6	010100104	Bronze Washer	1



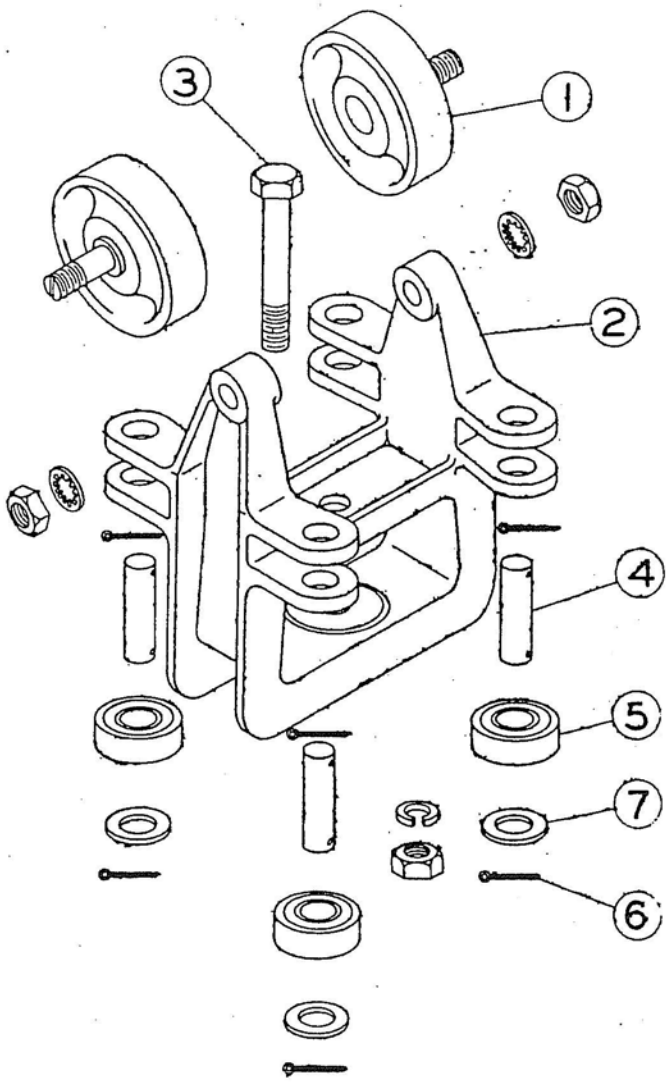
REF. NO.	PART NO.	PART DESCRIPTION	QTY.
1	S75208	5" Dia. Wheel Assembly	2
2	0102037	Yoke	1
3	010100103	Trunnion	1
4	0102034	Crossbar	1
5	680375400	Capscrew 3/8-16 x 4 w/Nut & Lockwasher	2
6	010100104	Bronze Washer	1

NO. 1–8 CARRIER HEAD



REF. NO.	PART NO.	DESCRIPTION	QTY.
1	1–263	5" Dia. Wheel Assembly w/Nut - Lock Washer	2
2	1–1044	Yoke	1
3	1–1001–3	Trunnion	1
4	1–1001–2	Cross Bar	1
5		3/8 - 16 x 3 Hex Bolt - Nut - Lock Washer	2

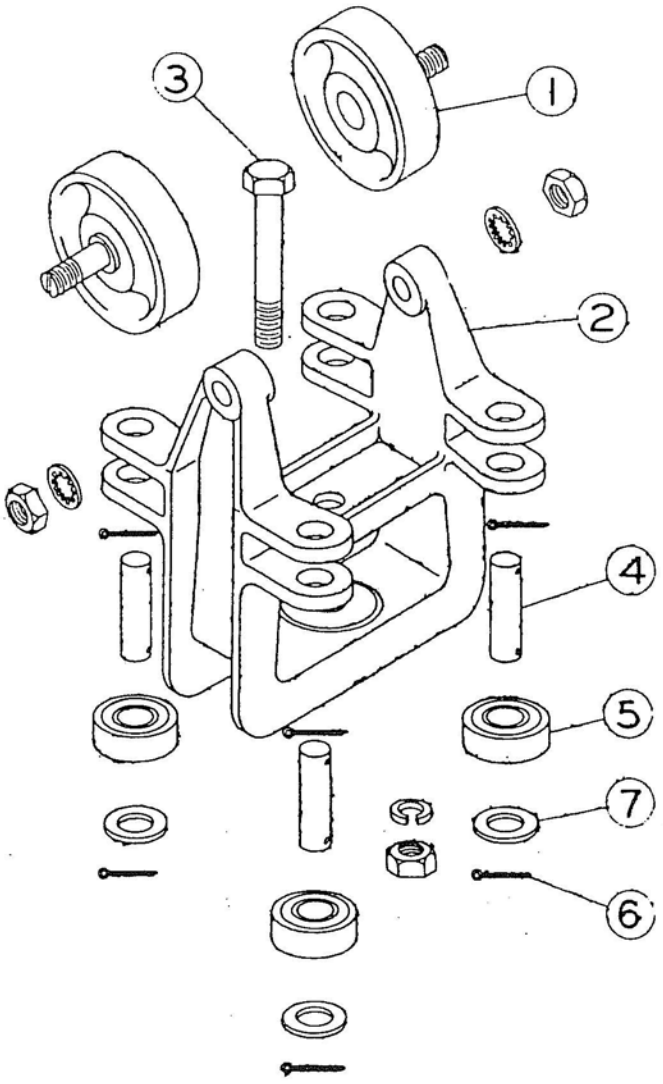
NO. 1–10 CARRIER HEAD



REF. NO.	PART NO.	DESCRIPTION	QTY.
1	1–262	4" Dia. Wheel Assembly, Nut and Lockwasher	2
2	1–1076	Yoke	1
3		Trunnion (5/8 x 3 1/2 Bolt - Nut - Lockwasher)	1
4	9–1040	Roller Pin	4
5	1–10–4	Guide Roller	4
6		1/8" x 1" Cotter Pin	8
7		3/4" SAE Washer	4

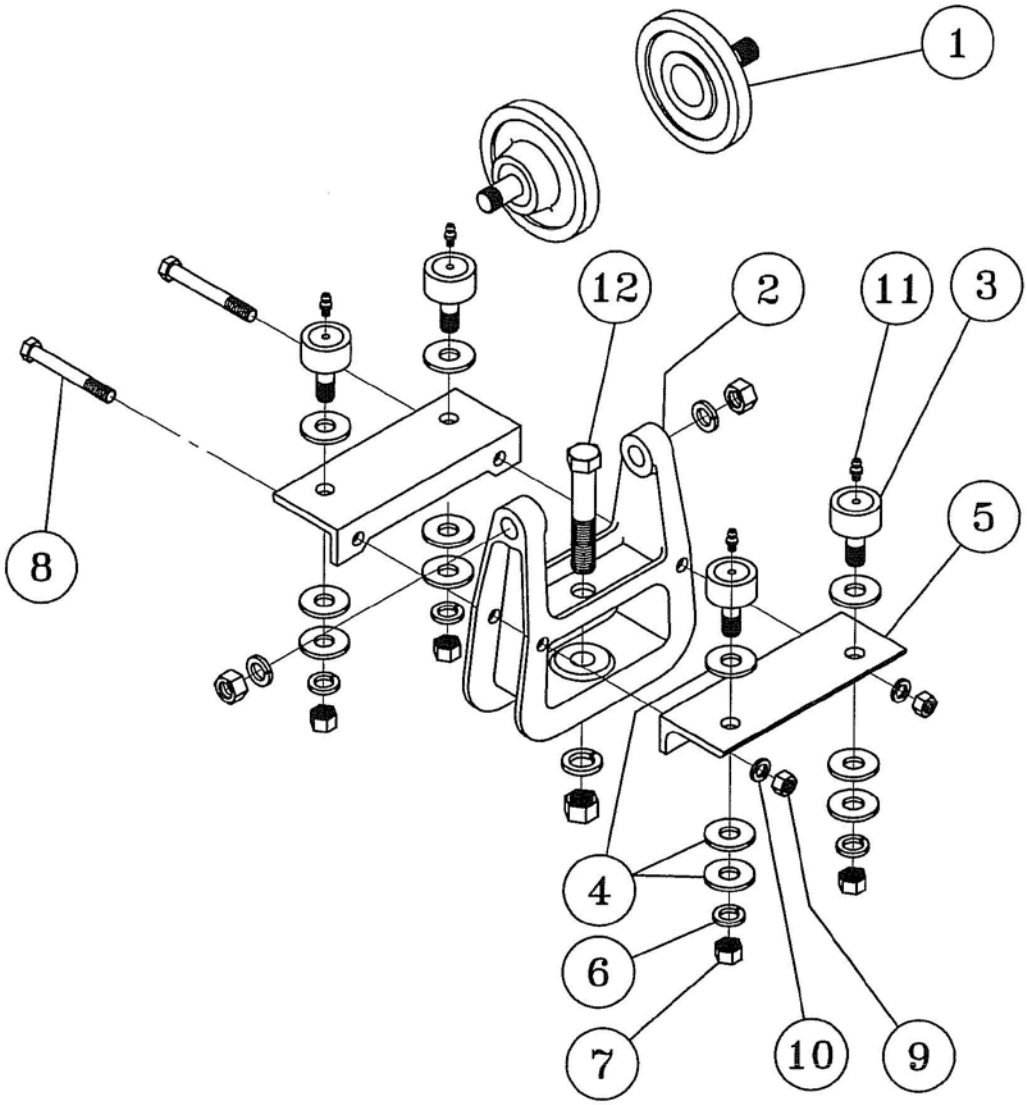
NO. 1–10 CARRIER HEAD

WITH BRONZE WHEELS
AND NYLON ROLLERS

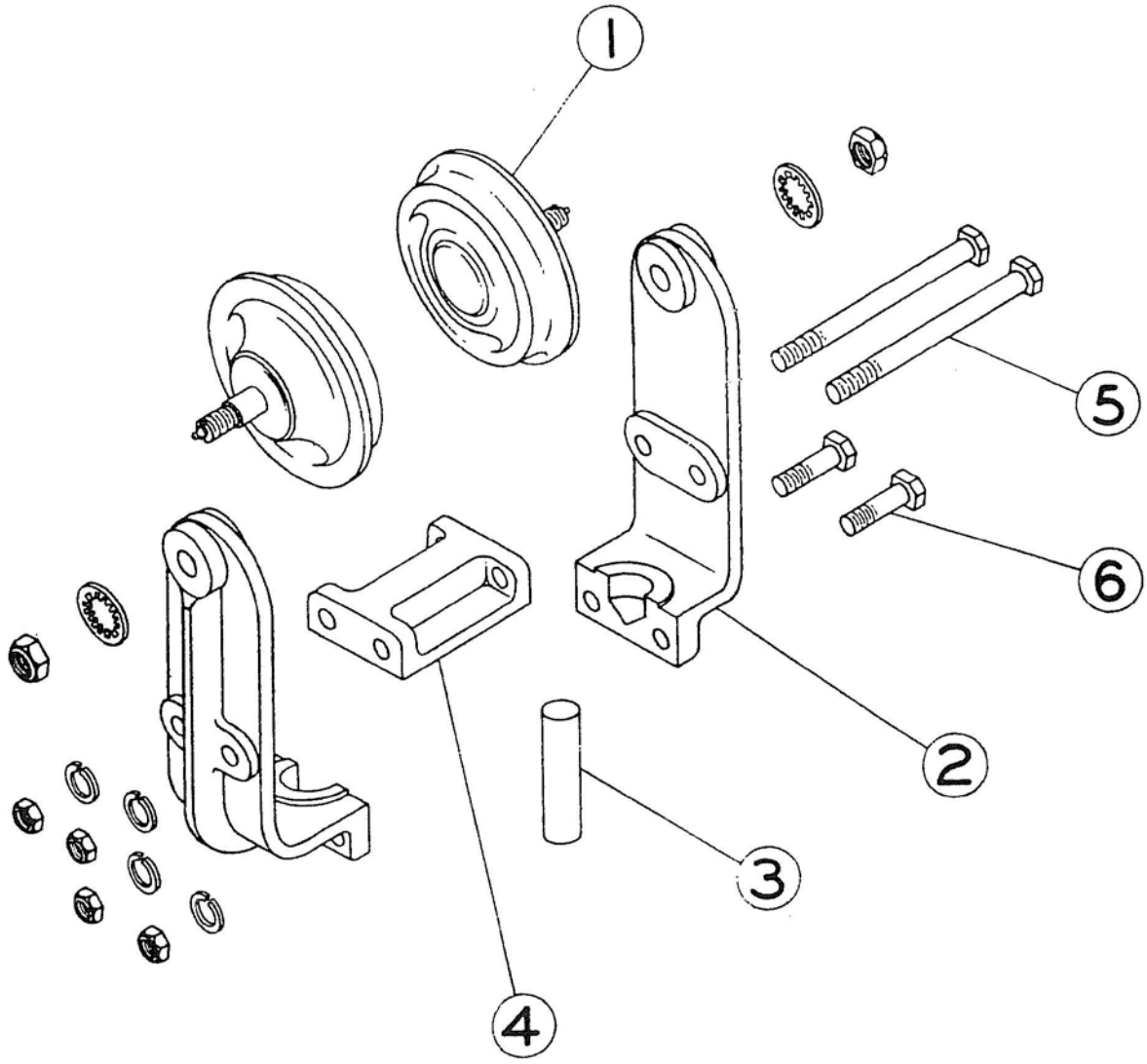


REF. NO.	PART NO.	DESCRIPTION	QTY.
1	S73939	4" Dia. Wheel Assembly, Nut and Lockwasher	2
2	1–1076	Yoke	1
3		Trunnion (5/8 x 3 1/2 Bolt - Nut - Lockwasher)	1
4	9–1040	Roller Pin	4
5	R62852	Guide Roller	4
6		1/8" x 1" Cotter Pin	8
7		3/4" SAE Washer	4

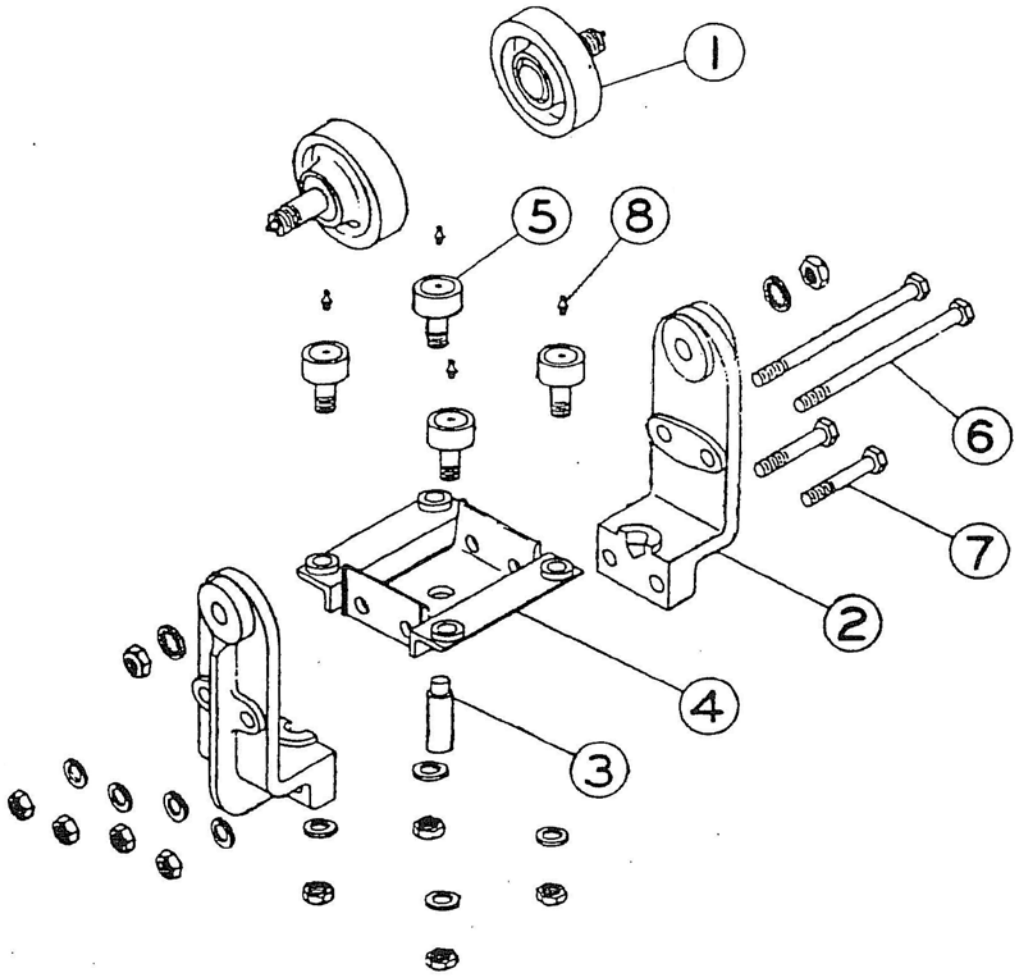
PARTS LIST
01010 CARRIER HEAD



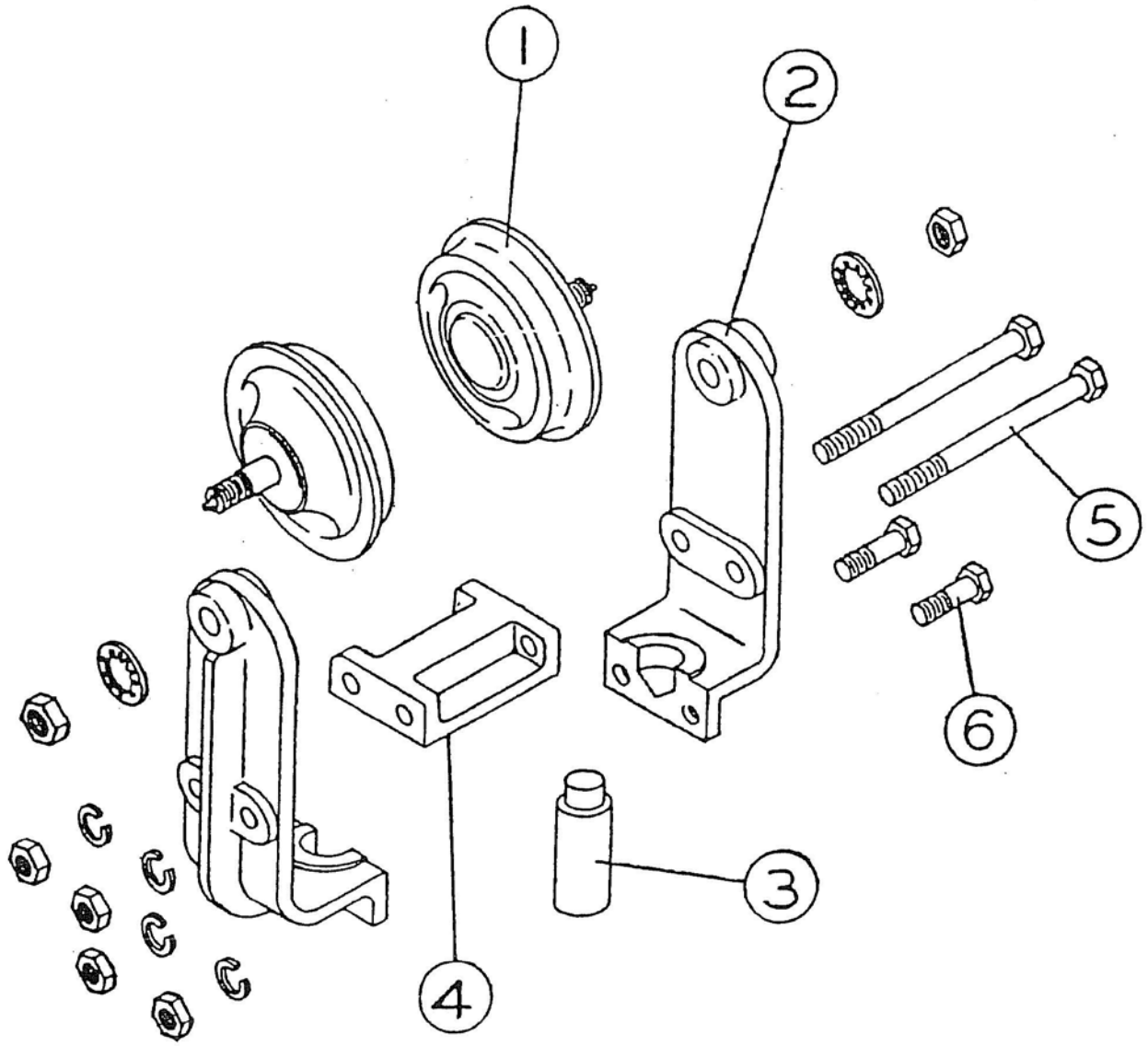
REF. NO.	PART NO.	PART DESCRIPTION	QTY.
1	010262	4" Dia. Wheel Assembly, Nut & Lockwasher	2
2	0101029	Yoke	1
3	050300	Guide Roller	4
4	480130	1/2" Cut Washer	12
5	S91898	Side Guide Roller Bracket	2
6	480105	1/2" Lockwasher	4
7	480095	1/2-20 Jam Nut	4
8	680375300	3/8"-16 x 3 Cap Screw	2
9	480133	3/8"-16 Jam Nut	2
10	480124	3/8" Lockwasher	2
11	480023	Lub Fitting	4
12	680625350	Capscrew 5/8-11 x 3 1/2", Nut & Lockwasher	1



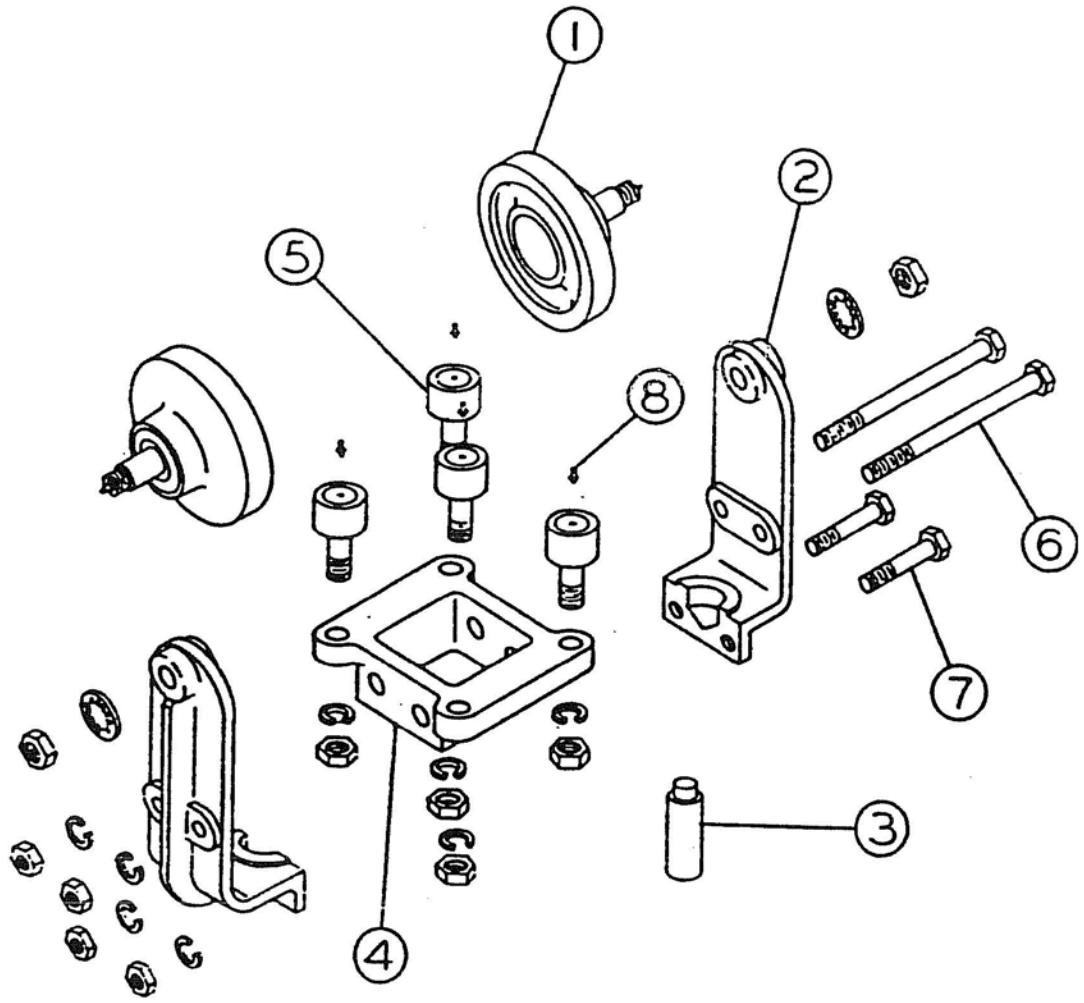
REF. NO.	PART NO.	PART DESCRIPTION	QTY.
1	010265	5" Dia. Wheel Assembly, Nut & Lockwasher	2
2	0102019	Side Frame	2
3	0102016	Trunnion	1
4	0102014	Crossbar	1
5	680500750	Capscrew 1/2-13 x 7-1/2, Nut & Lockwasher	2
6	680500350	Capscrew 1/2-13 x 3-1/2, Nut & Lockwasher	2



REF. NO.	PART NO.	PART DESCRIPTION	QTY.
1	010266	5" Dia. Wheel Assembly, Nut & Lockwasher	2
2	0102019	Side Frame	2
3	0102017	Trunnion	1
4	0102029	Crossbar	1
5	050300	Guide Roller, 1/2-20 Jam Nut & Lockwasher	4
6	680500750	Capscrew 1/2-13 x 7-1/2, Nut & Lockwasher	2
7	680500350	Capscrew 1/2-13 x 3-1/2, Nut & Lockwasher	2
8	480023	Lube Fitting	4

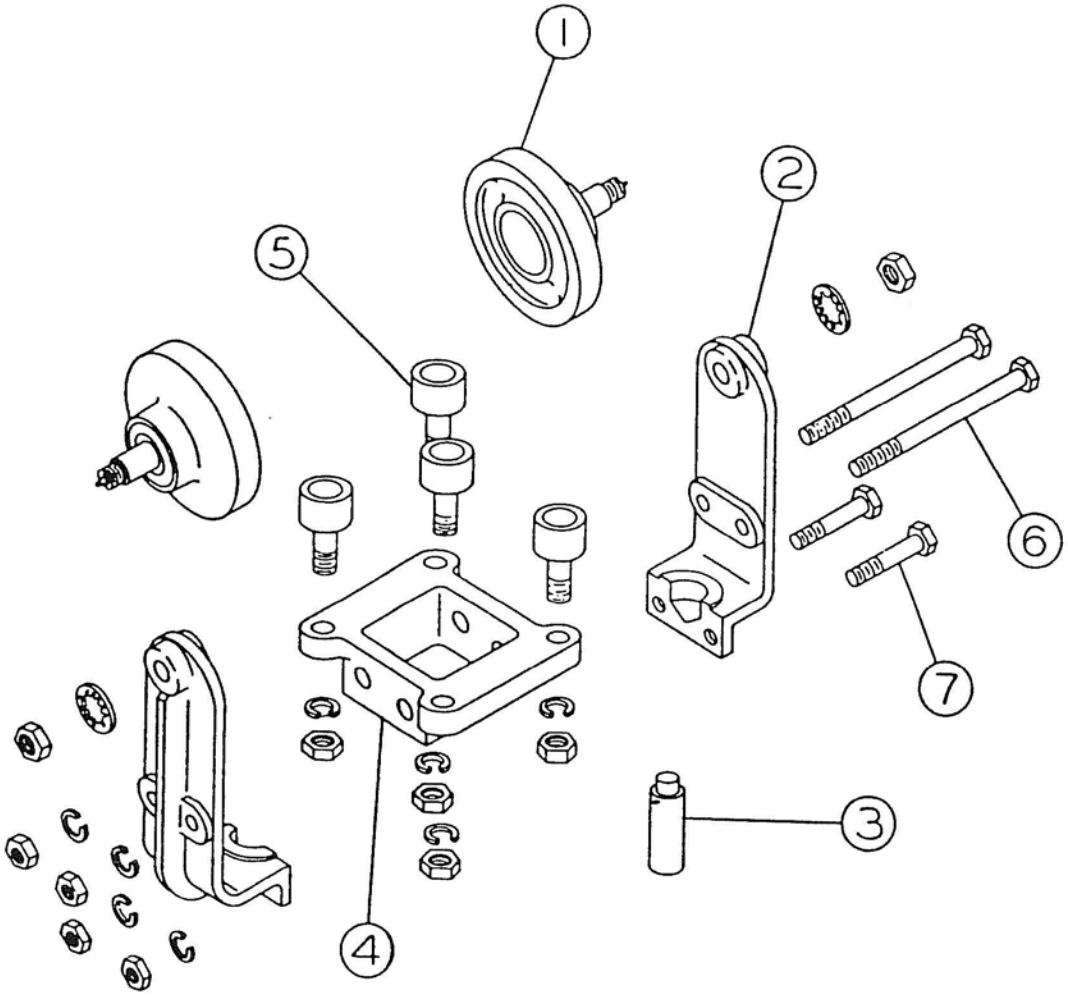


REF. NO.	PART NO.	PART DESCRIPTION	QTY.
1	010267	6-1/2" Dia. Wheel Assembly, Nut & Lockwasher	2
2	0102020	Side Frame	2
3	0102022	Trunnion	1
4	0102014	Crossbar	1
5	680500850	Capscrew 1/2-13 x 8-1/2, Nut & Lockwasher	2
6	680500350	Capscrew 1/2-13 x 3-1/2, Nut & Lockwasher	2

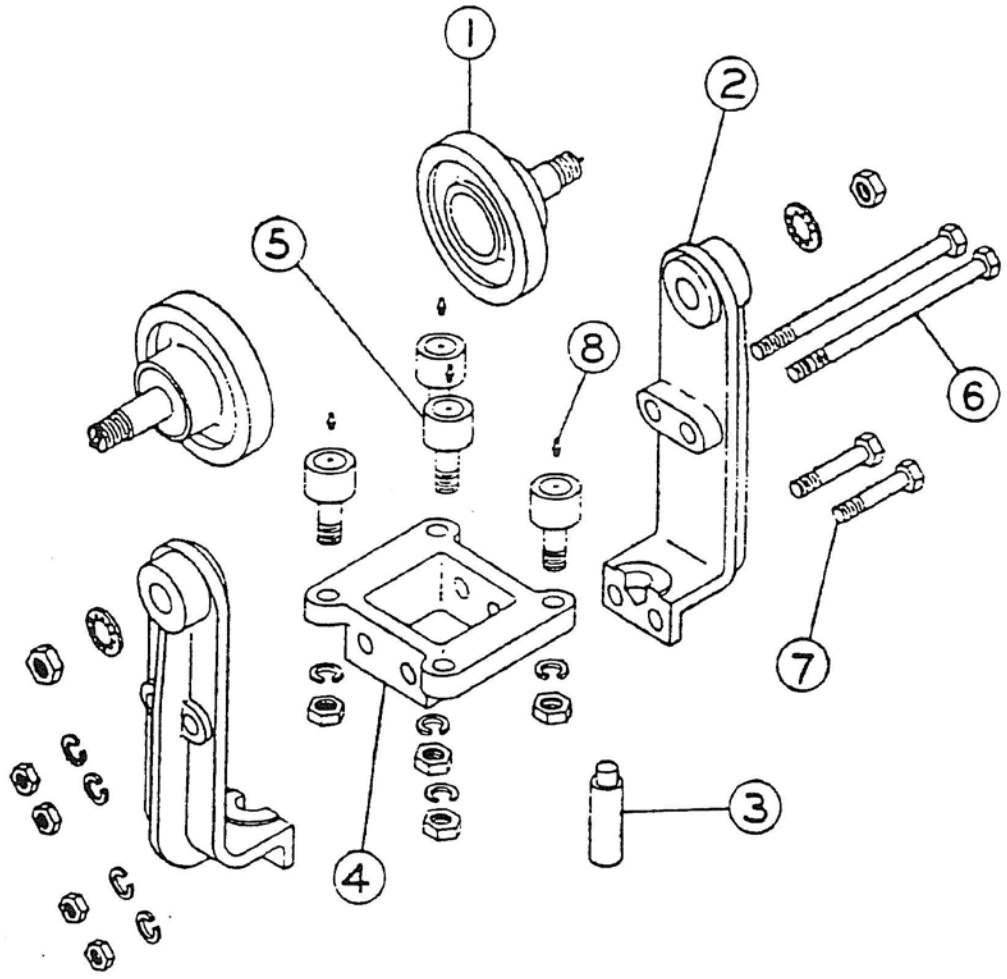


REF. NO.	PART NO.	PART DESCRIPTION	QTY.
1	010268	6-1/2" Dia. Wheel Assembly, Nut & Lockwasher	2
2	0102020	Side Frame	2
3	0102022	Trunnion	1
4	0102015	Crossbar	1
5	050301	Guide Roller, 7/8-14 Jam Nut, Lockwasher	4
6	680500850	Capscrew 1/2-13 x 8-1/2, Nut & Lockwasher	2
7	680500350	Capscrew 1/2-13 x 3-1/2, Nut & Lockwasher	2
8	480023	Lube Fitting	4

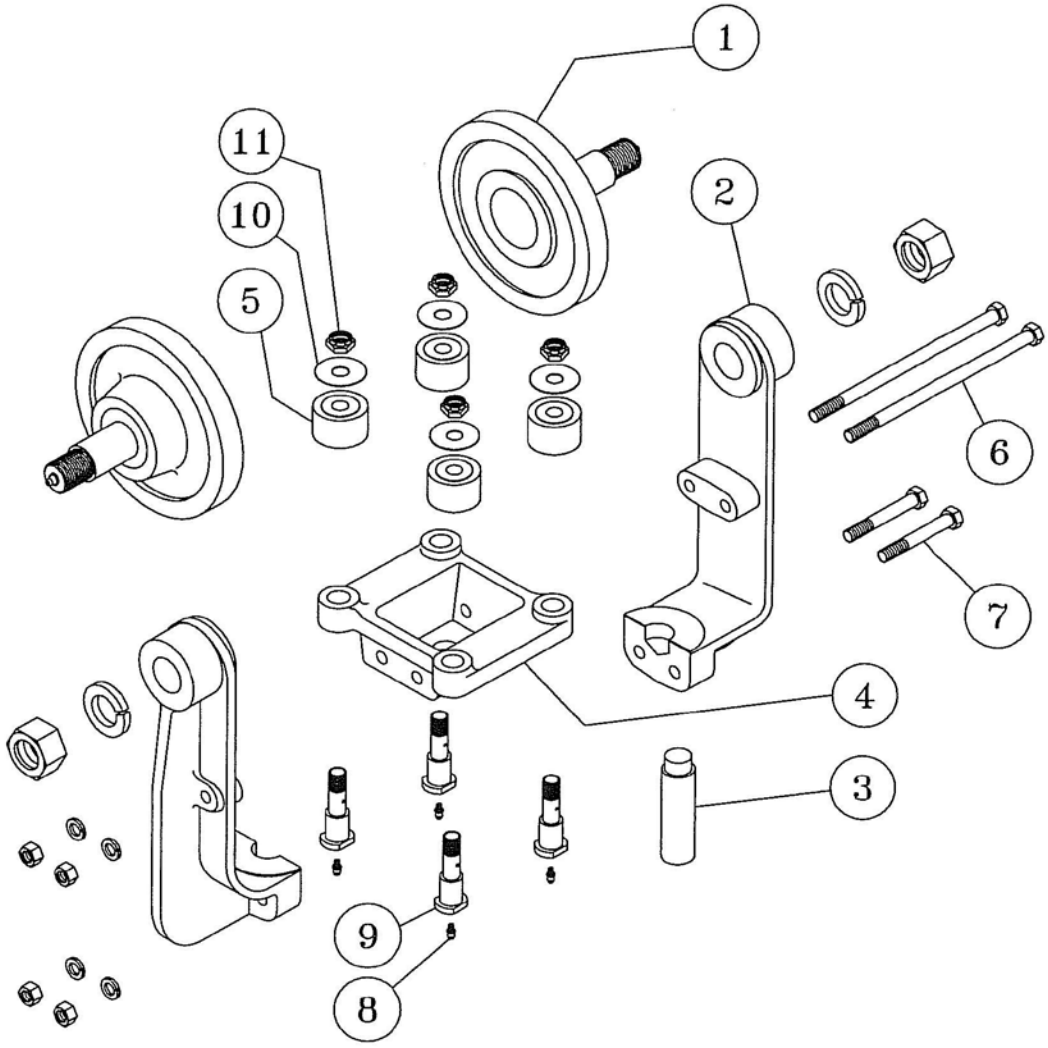
NO. 1-210 CARRIER HEAD
WITH OSBORN SIDE
GUIDE ROLLERS



REF. NO.	PART NO.	DESCRIPTION	QTY.
1	1-268	6 1/2" Dia. Wheel Assembly, Nut and Lockwasher	2
2	1-2020	Side Frame	2
3	1-2022	Trunnion	1
4	1-2015	Cross Bar	1
5	OSBORN	PLR-2 SIDE GUIDE ROLLER	4
6		1/2 - 13x8 Hex Bolt, Nut and Lockwasher	2
7		1/2- 13x3 1/4 Hex Bolt, Nut and Lockwasher	2



REF. NO.	PART NO.	PART DESCRIPTION	QTY.
1	010269	6-1/2" Dia. Wheel Assembly, Nut & Lockwasher	2
2	010251	Side Frame Assembly	1
3	0102018	Trunnion	1
4	0102015	Crossbar	1
5	050301	Guide Roller, 7/8-14 Jam Nut, Lock Washer	4
6	680500950	Capscrew 1/2-13 x 9-1/2, Nut & Lockwasher	2
7	680500350	Capscrew 1/2-13 x 3-1/2, Nut & Lockwasher	2
8	480023	Lube Fitting	4



REF. NO.	PART NO.	PART DESCRIPTION	QTY.
1	010269	8" Dia. Wheel Assembly, Nut & Lockwasher	2
2	010251	Side Frame Assembly	1
3	0102018	Trunnion	1
4	0102015	Crossbar	1
5	McGill	CYR-2-S Camrol Bearing	4
6	680500950	Capscrew 1/2-13 x9 1/2 Nut & lockwasher	2
7	680500350	Capscrew 1/2-13 x3 1/2 Nut & lockwasher	2
8	480023	Lube Fitting	4
9	R67180	Guide Roller Shaft	4
10	R67181	Guide Roller Shield	4
11	480050	5/8-11 Flexloc Nut	4

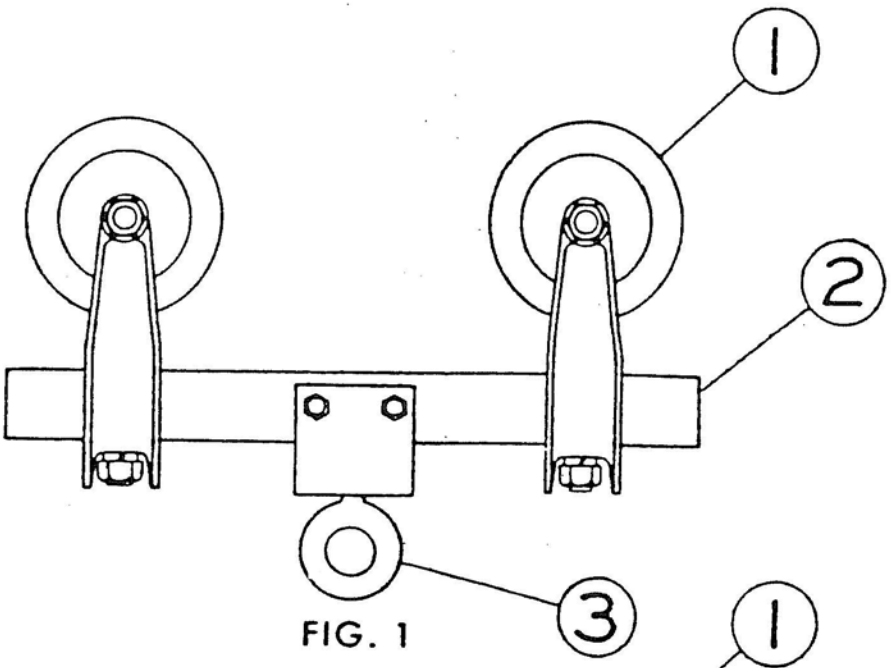


FIG. 1

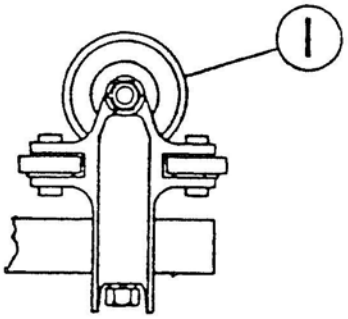


FIG. 2

WITH GUIDE ROLLER

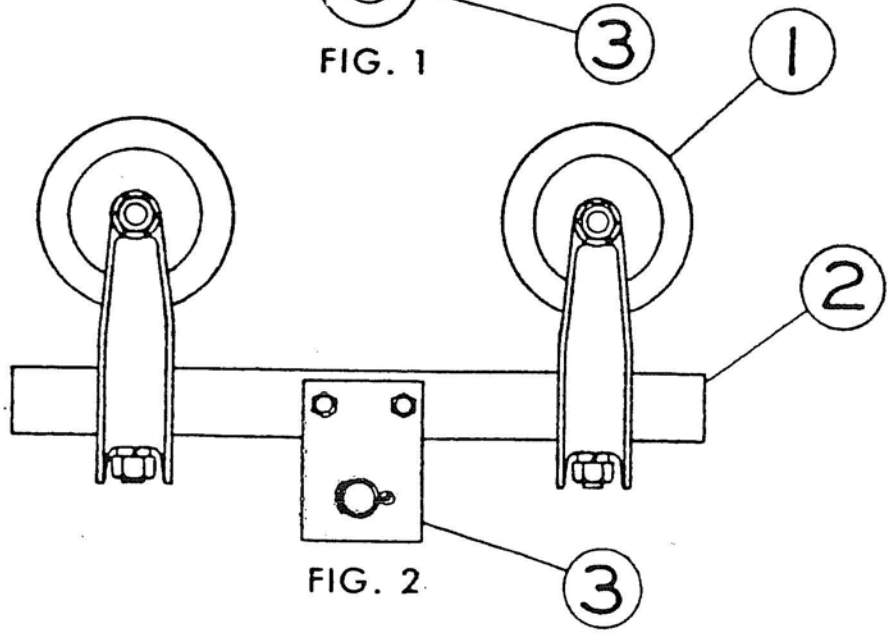


FIG. 2

WITH FLANGED WHEELS

LINE NO.	FIG. NO.	CARRIER NO.	REF 1		REF 2	REF 3
			PART	PAGE	PART	PART
1	1	11–302	1–201	PC53	7–301	7–2025
2	1	11–402	1–10	PC55	7–301	7–2025
3	2	11–303	1–201	PC53	7–301	7–2032
4	2	11–403	1–10	PC55	7–301	7–2032

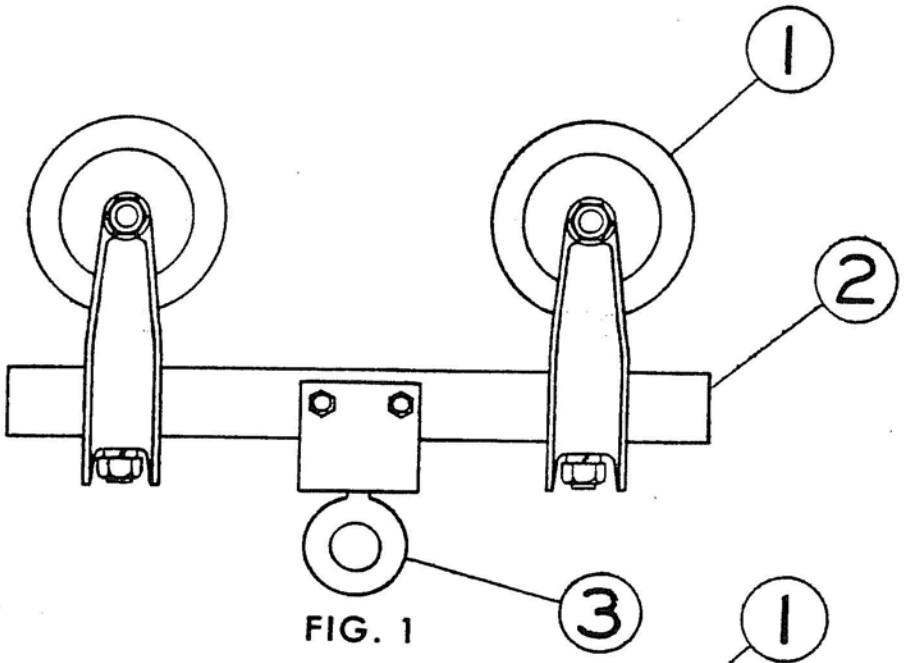


FIG. 1

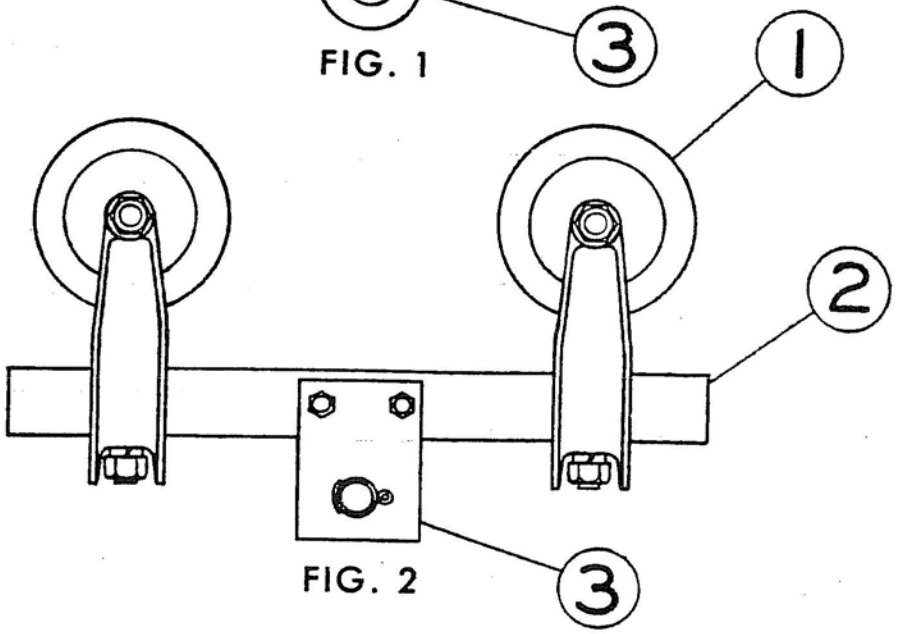


FIG. 2

LINE NO.	FIG. NO.	CARRIER NO.	REF. 1		REF.2	REF.3
			PART	PAGE	PART	PART
1	1	11-302	1-201	PC53	7-301	7-2025
2	2	11-303	1-201	PC53	7-301	7-2032

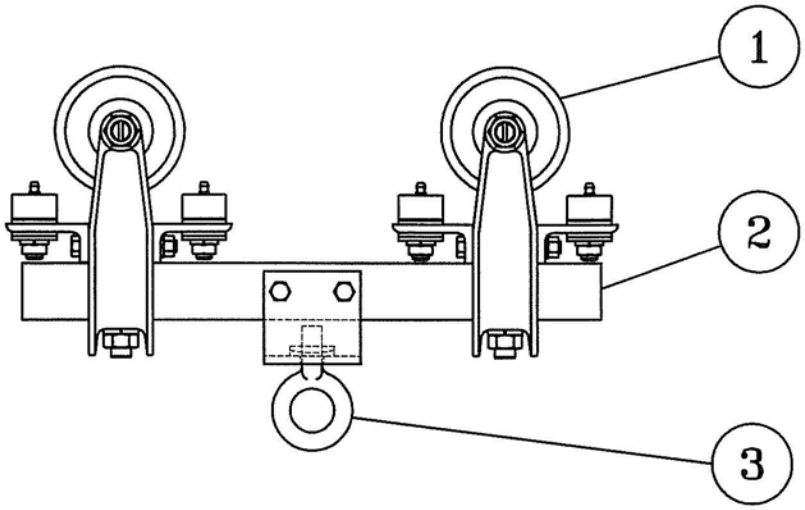


FIG. 1

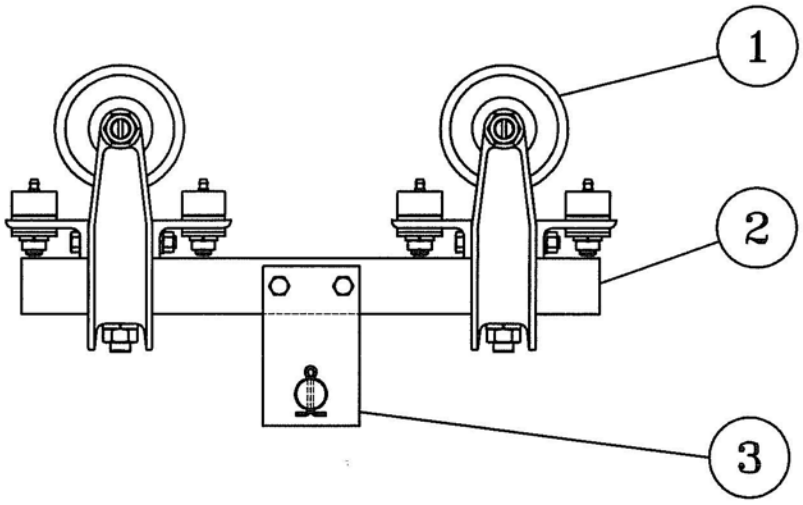
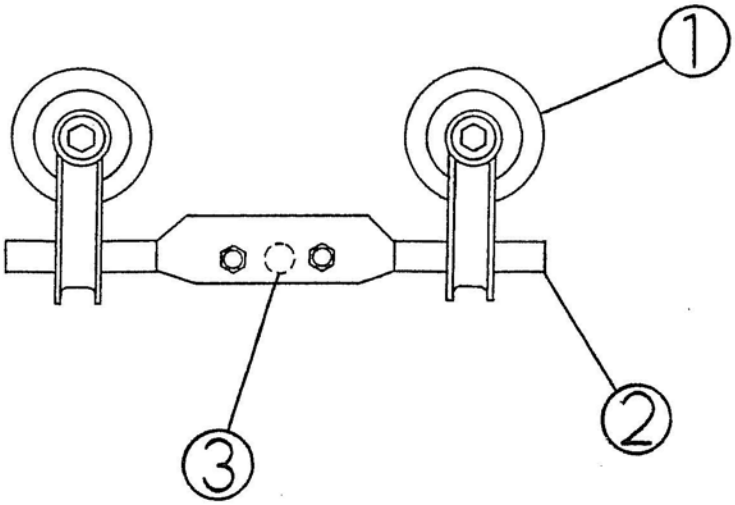


FIG. 2

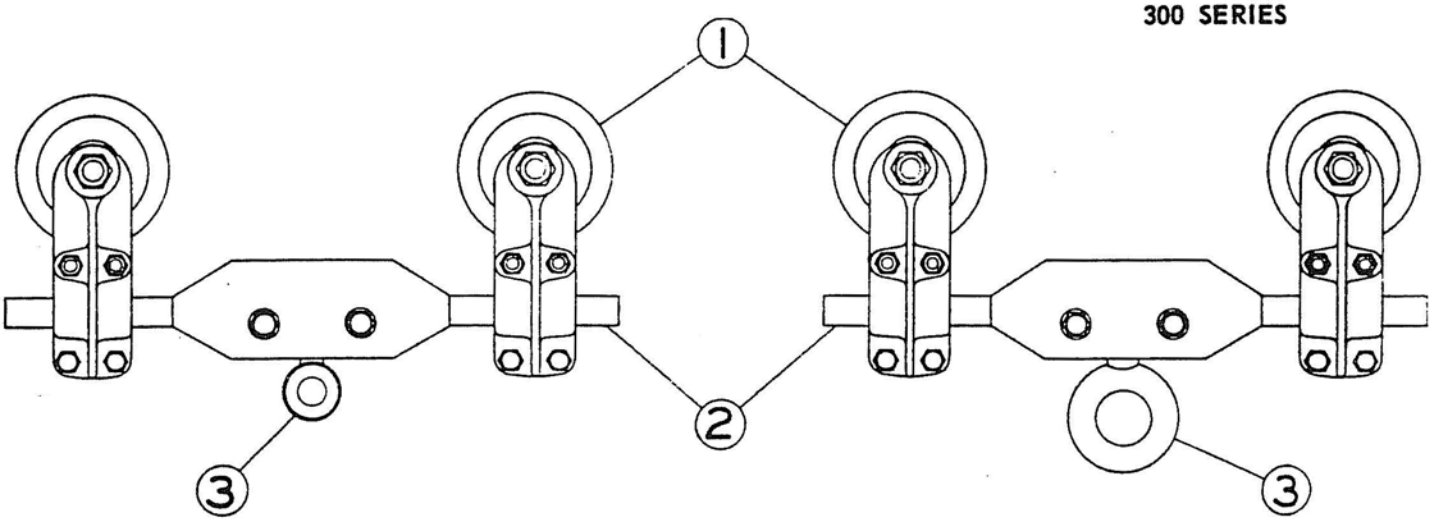
LINE NO.	FIG. NO.	CARRIER NO.	REF. 1		REF. 2	REF. 3
			PART	PAGE	PART	PART
1	1	110402	01010	PC-55R	070301	0702025
2	2	110403	01010	PC-55R	070301	0702032

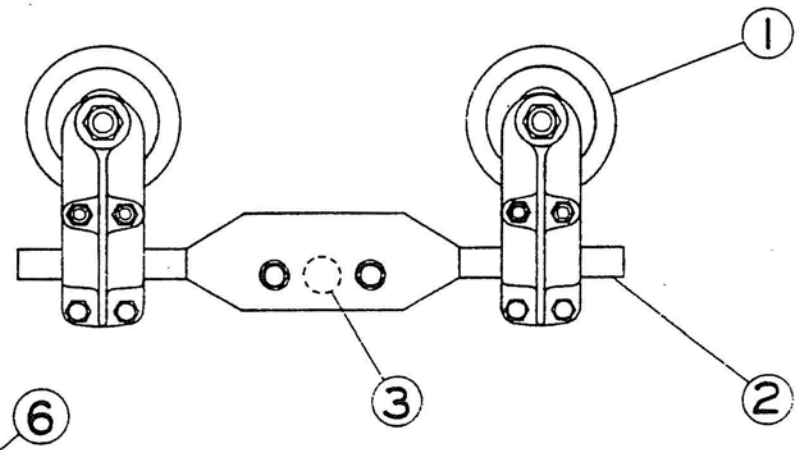
CARRIER 4 WHEEL

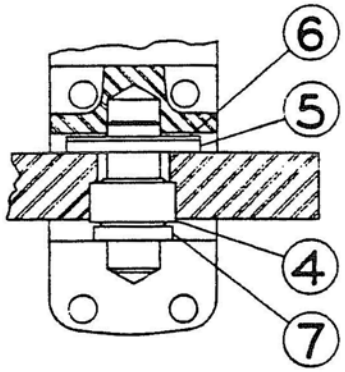


LINE NO.	CARRIER NO.	REF. 1		REF. 2	REF. 3
		PART	PAGE	PART	PAGE
1	11-306	1-203	PC-3-3	7-132	PC82-2-L1
2	11-309	1-205	PC-3-5	7-132	PC82-2-L1

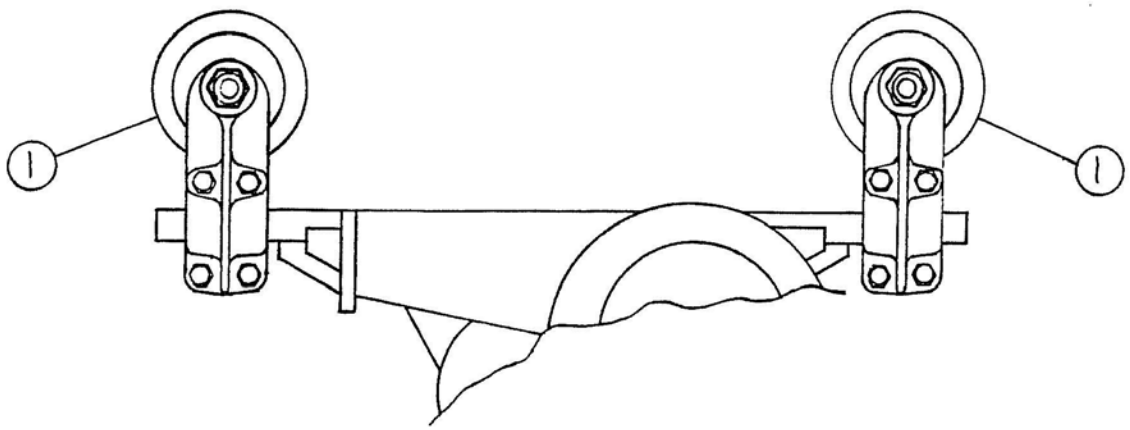
CARRIER - 4 WHEEL
300 SERIES

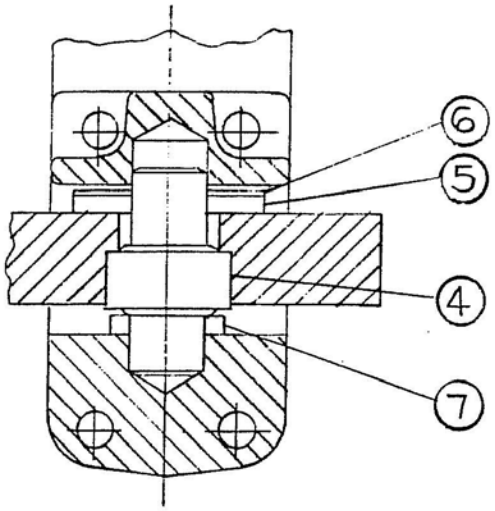






LINE NO.	FIG. NO.	CARRIER NO.	REF 1		REF 2	REF 3	REF 4	REF 5		REF 6		REF 7
			PART	PAGE	PART	PAGE	PART	PART	QTY.	PART	QTY.	PART
1	1	11-310	1-207	PC65	7-304	PC82-L1	B16-9L	1-2025	2	———	—	7-2005
2	1	11-313	1-209	PC69	7-305	PC82-L2	B20-9L	1-2026	2	1-2024	2	7-2008
3	2	11-311	1-207	PC65	7-304	PC82-L3	B16-9L	1-2025	2	———	—	7-2005
4	2	11-314	1-209	PC69	7-305	PC82-L4	B20-9L	1-2026	2	1-2024	2	7-2008
5	3	11-312	1-207	PC65	7-304	PC82-L5	B16-9L	1-2025	2	———	—	7-2005
6	3	11-315	1-209	PC69	7-305	PC82-L6	B20-9L	1-2026	2	1-2024	2	7-2008





LINE NO.	REF. 1		REF. 4	REF. 5		REF. 6		REF. 7
	PART	PAGE	PART	PART	QTY.	PART	QTY.	PART
1	10207	PC-65	B16-9L	102025	2	---	--	702005
2	10208	PC-67	B16-9L	102025	2	---	--	702005
3	10209	PC-69	B20-9L	102026	2	102024	2	702008
4	10210	PC-71	B20-9L	102026	2	102024	2	702008

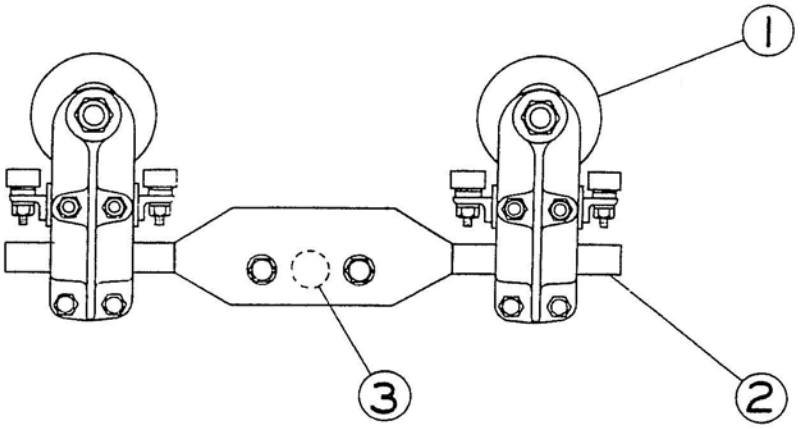


FIG. 1

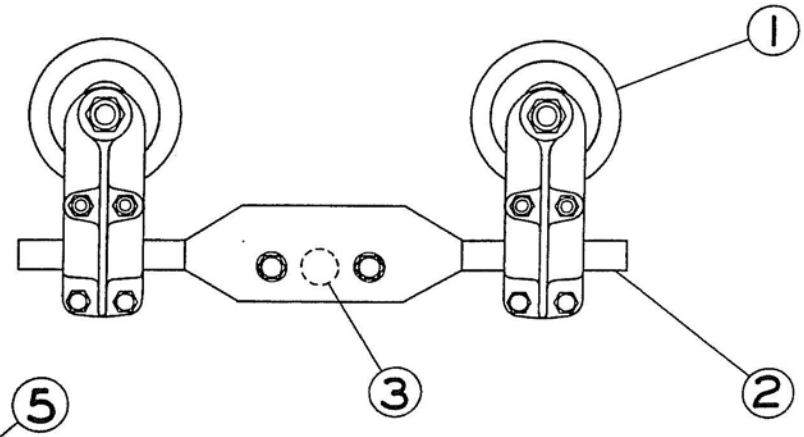
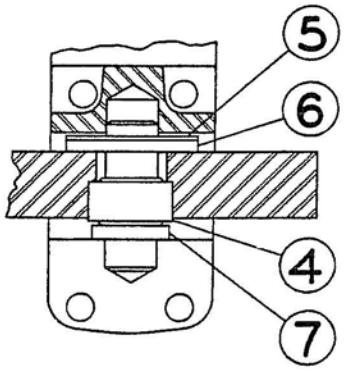


FIG. 2

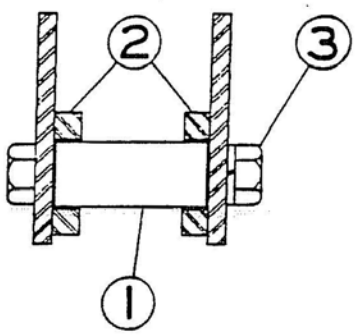


LINE NO.	FIG. NO.	CARRIER NO.	REF. 1 PART	REF. 1 PAGE	REF.2 PART	REF. 3 PAGE	REF. 4 PART	REF. 5 PART	REF. 5 QTY	REF. 6 PART	REF. 6 QTY	REF. 7 PART
1	2	11-312	1-207	PC-65	7-304	PC82-1-L2	B16-9L	1-2025	2	------	-	7-2005
2	2	11-315	1-209	PC-69	7-305	PC82-1-L3	B20-9L	1-2024	2	1-2026	2	7-2008
3	1	11-412	1-208	PC-67	7-304	PC82-1-L2	B16-9L	1-2025	2	------	-	7-2005
4	1	11-415	1-210	PC-71	7-305	PC82-1-L3	B20-9L	1-2024	2	1-2026	2	7-2008
5	1	11-418	1-211	PC-73	7-305	PC82-1-L3	B20-9L	1-2024	4	1-2026	4	7-2008

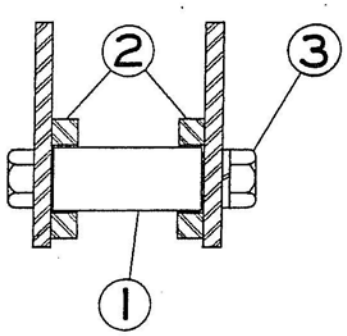
Issued: 1-18-95

PARTS LIST

CARRIER PIN ADAPTOR



LINE NO.	REF. 1 PART	REF.2 PART	REF. 3 DESCRIPTION
1	7-2022	7-2019	5/8-18 x 1 HTCS-LW
2	7-2023	7-2020	5/8-18 x 1 HTCS-LW
3	7-2024	7-2021	7/8-14 x 1 3/4 HTCS-LW



LINE NO.	REF. 1 PART	REF.2 PART	REF. 3 DESCRIPTION
1	7-2022	7-2019	5/8-18 x 1 HTCS-LW
2	7-2023	7-2020	5/8-18 x 1 HTCS-LW
3	7-2024	7-2021	7/8-14 x 1 3/4 HTCS-LW

CARRIER - 4 WHEEL

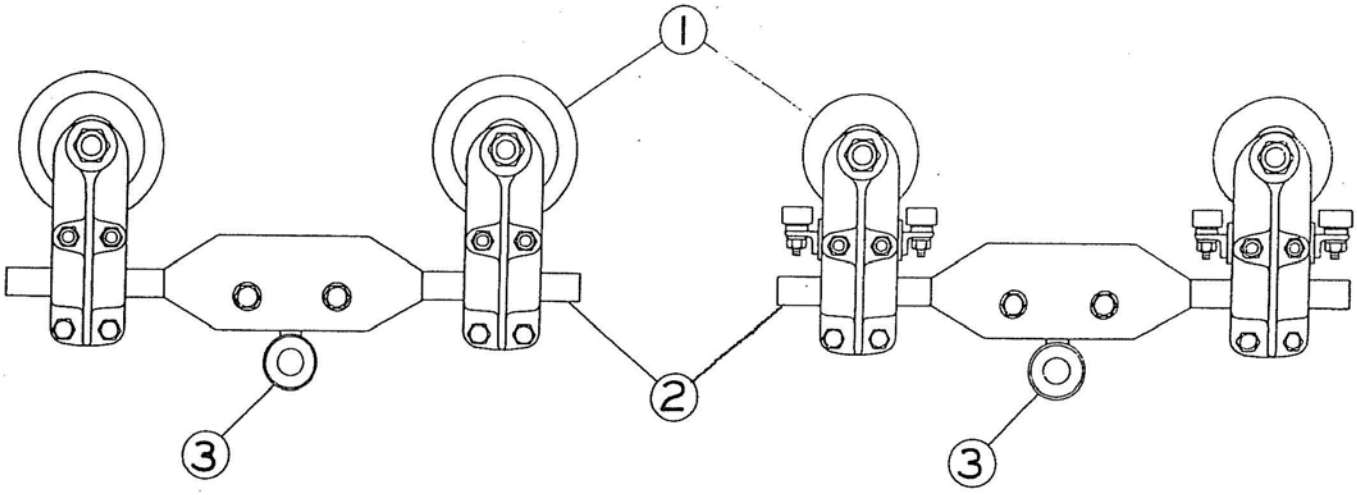
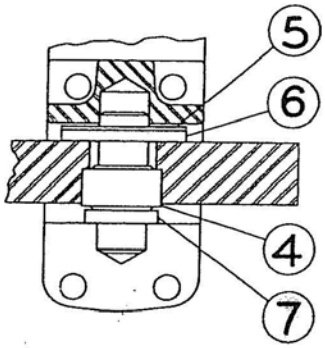


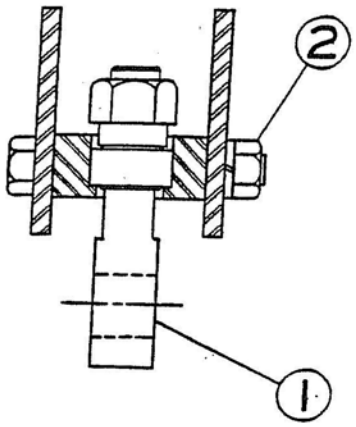
FIG.1

FIG.2



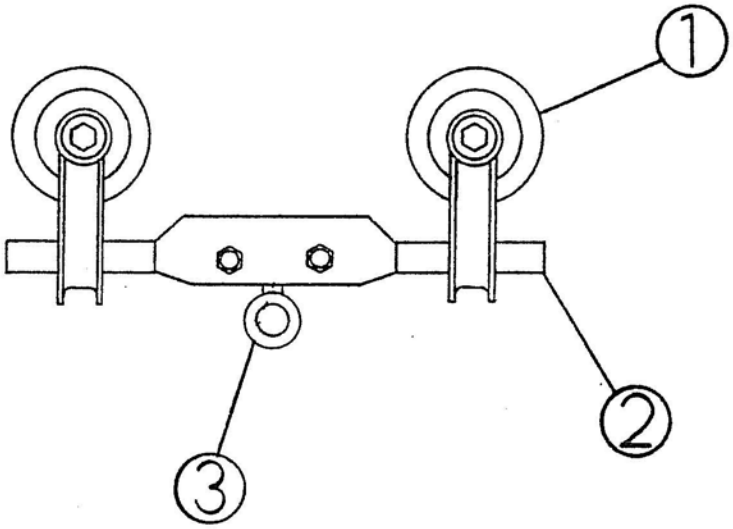
LINE	FIG.	CARRIER	REF. 1		REF. 2	REF. 3	REF. 4	REF. 5		REF. 6		REF. 7
NO.	NO.	NO.	PART	PAGE	PART	PAGE	PART	PART	QTY.	PART	QTY.	PART
1	1	110331	010207	PC-65	070304	PC-84-L1	050201	0102025	2	-------	----	0702005
2	1	110332	010207	PC-65	070304	PC-84-L2	050201	0102025	2	-------	----	0702005
3	1	110333	010209	PC-69	070305	PC-84-L3	050202	0102024	2	0102026	2	0702008
4	1	110334	010209	PC-69	070305	PC-84-L4	050202	0102024	2	0102026	2	0702008
5	2	110431	010208	PC-67	070304	PC-84-L1	050201	0102025	2	-------	----	0702005
6	2	110432	010208	PC-67	070304	PC-84-L2	050201	0102025	2	-------	----	0702005
7	2	110433	010210	PC-71	070305	PC-84-L3	050202	0102024	2	0102026	2	0702008
8	2	110434	010210	PC-71	070305	PC-84-L4	050202	0102024	2	0102026	2	0702008
9	2	110435	010211	PC-73	070305	PC-84-L3	050202	0102024	4	0102026	4	0702008
10	2	110436	010211	PC-73	070305	PC-84-L4	050202	0102024	4	0102026	4	0702008

CARRIER EYE ASSEMBLY



LINE NO.	REF. 1 PART	REF. 2 DESCRIPTION
1	7-2054	5/8-18 x 4 1/2 HTCS-N-LW
2	7-2055	5/8-18 x 4 1/2 HTCS-N-LW
3	7-2056	7/8-14 x 6 1/2 HTCS-N-LW
4	7-2057	7/8-14 x 6 1/2 HTCS-N-LW

CARRIER - 4 WHEEL

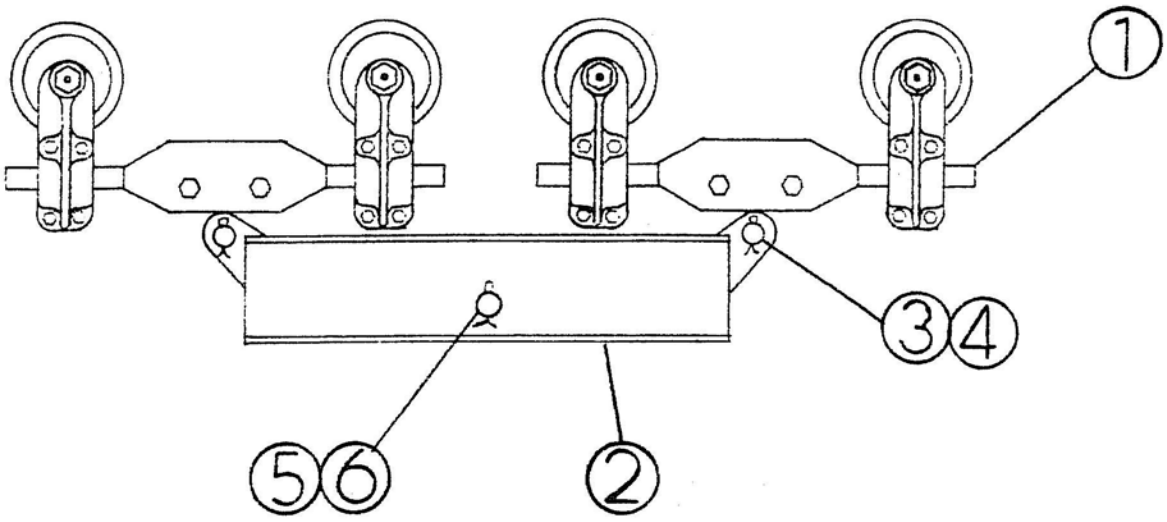


LINE NO.	CARRIER NO.	REF. 1		REF.2	REF. 3
		PART	PAGE	PART	PAGE
1	11-327	1-203	PC-3-3	7-132	PC84-1-L1
2	11-328	1-203	PC-3-3	7-132	PC84-1-L2
3	11-329	1-205	PC-3-5	7-132	PC84-1-L1
4	11-330	1-205	PC-3-5	7-132	PC84-1-L2

PARTS LIST

CARRIER - 8 WHEEL

PIN TYPE



LINE	CARRIER	REF. 1		REF. 2	REF. 3	REF. 4	REF. 5	REF. 6
NO.	NO.	PART	PAGE	PART	PART	PART	PART	PART
1	11-337	11-327	PC85-1-L1	7-2038	9-1020	1/4 x 2 PIN	7-2041	1/4 x 2 1/2 PIN
2	11-338	11-328	PC85-1-L2	7-2038	9-1020	1/4 x 2 PIN	7-2041	1/4 x 2 1/2 PIN
3	11-339	11-329	PC85-1-L3	7-2038	9-1020	1/4 x 2 PIN	7-2041	1/4 x 2 1/2 PIN
4	11-340	11-330	PC85-1-L4	7-2038	9-1020	1/4 x 2 PIN	7-2041	1/4 x 2 1/2 PIN
5	11-341	11-331	PC83-1-L1	7-2038	9-1020	1/4 x 2 PIN	7-2041	1/4 x 2 1/2 PIN
6	11-342	11-332	PC83-1-L2	7-2038	9-1020	1/4 x 2 PIN	7-2041	1/4 x 2 1/2 PIN
7	11-441	11-431	PC83-1-L5	7-2038	9-1020	1/4 x 2 PIN	7-2041	1/4 x 2 1/2 PIN
8	11-442	11-432	PC83-1-L6	7-2038	9-1020	1/4 x 2 PIN	7-2041	1/4 x 2 1/2 PIN
9	11-343	11-333	PC83-1-L3	7-2039	7-2043	1/4 x 2 PIN	7-2042	5/16 x 3 PIN
10	11-344	11-334	PC83-1-L4	7-2039	7-2043	1/4 x 2 PIN	7-2042	5/16 x 3 PIN
11	11-443	11-433	PC83-1-L7	7-2039	7-2043	1/4 x 2 PIN	7-2042	5/16 x 3 PIN
12	11-444	11-434	PC83-1-L8	7-2039	7-2043	1/4 x 2 PIN	7-2042	5/16 x 3 PIN

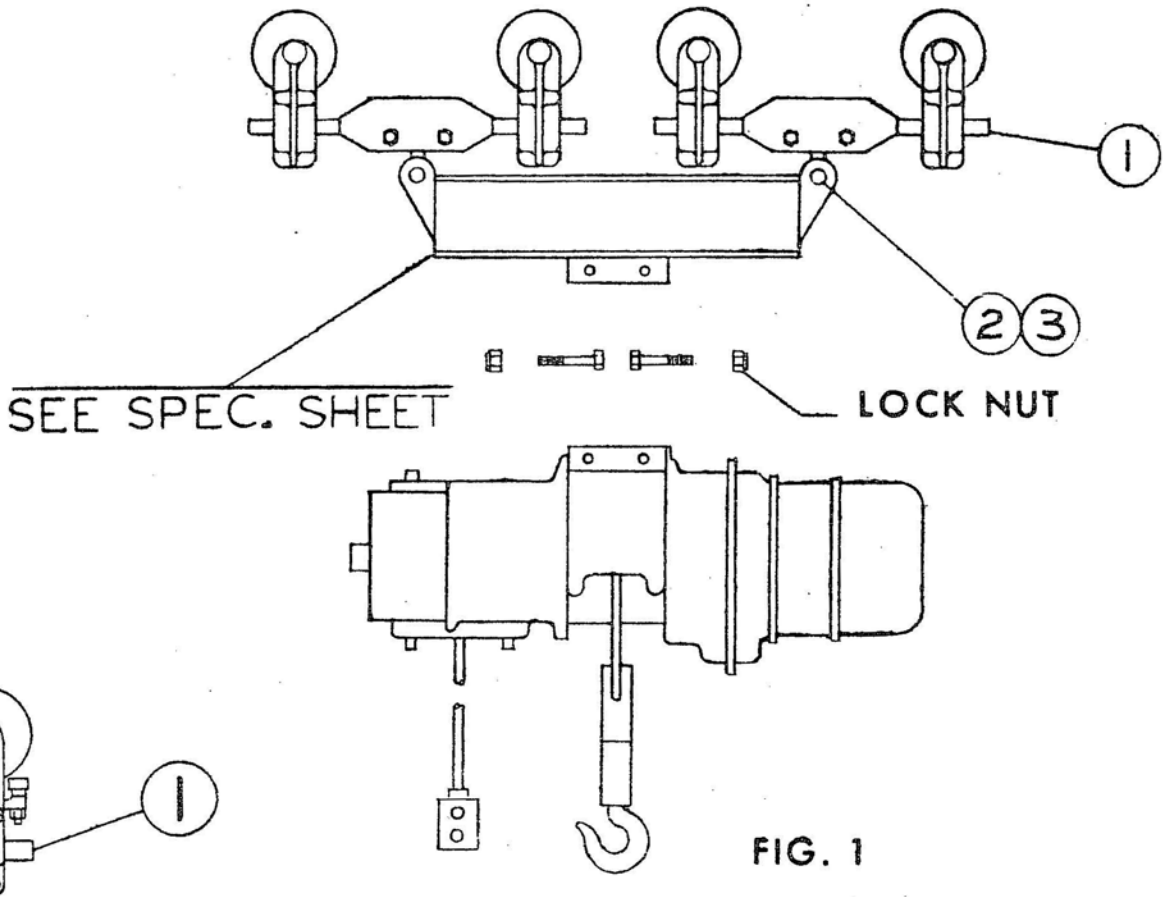
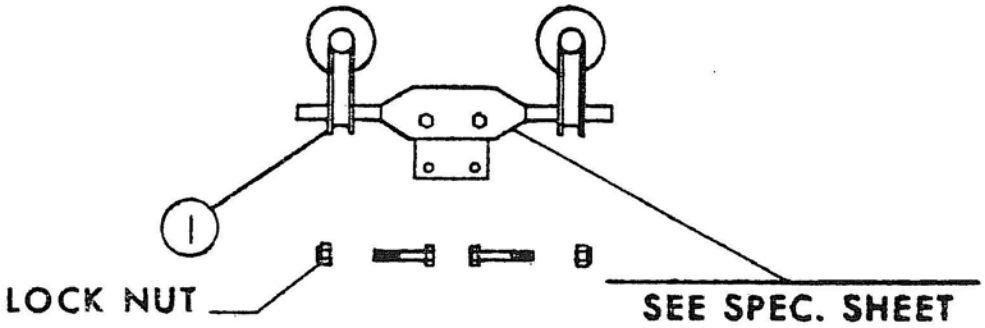


FIG. 1

FIG. 2

LINE NO.	FIG. NO.	REF 1		REF 2	REF 3
		PART	PAGE	PART	PART
1	1	11–101	PC77–L1	9–1020	¼ x 2 Cotter
2	1	11–104	PC77–L2	9–1020	¼ x 2 Cotter
3	1	11–310	PC81–L1	9–1020	¼ x 2 Cotter
4	1	11–313	PC81–L2	7–2043	¼ x 2 Cotter
5	2	11–410	PC83–L1	9–1020	¼ x 2 Cotter
6	2	11–413	PC83–L2	7–2043	¼ x 2 Cotter
7	2	11–416	PC83–L3	7–2043	¼ x 2 Cotter



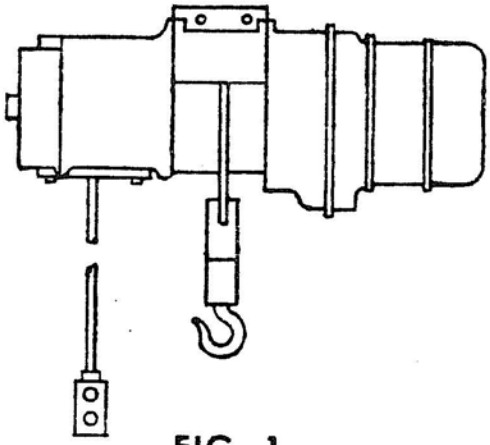
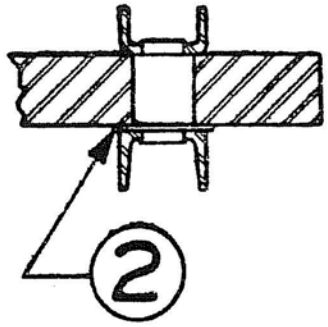


FIG. 1



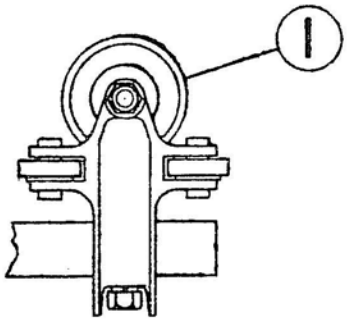
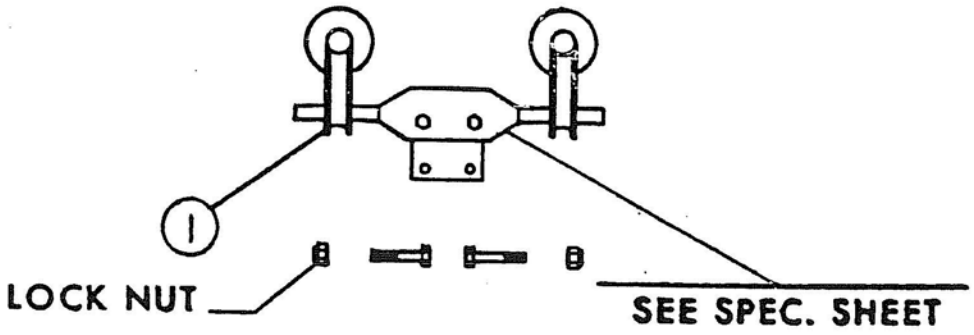
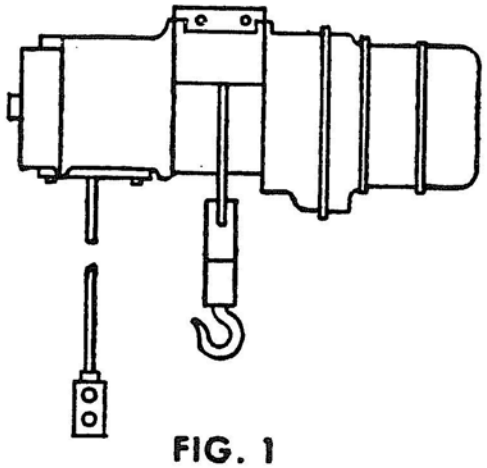


FIG. 2

LINE NO.	FIG. NO.	REF 1		REF 2
		PART	PAGE	PART
1	1	1–201	PC53	———
2	2	1–10	PC55	———
3	1	1–8	PC9	1–1001–4
4	1	1–1	PC3	1–1001–4





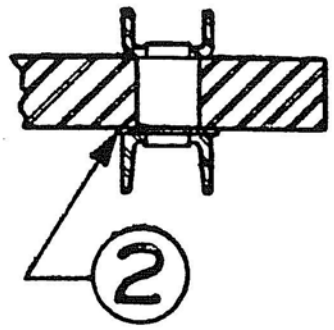


FIG. 1

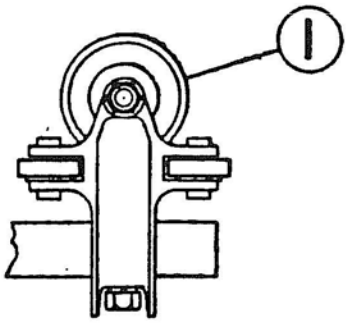
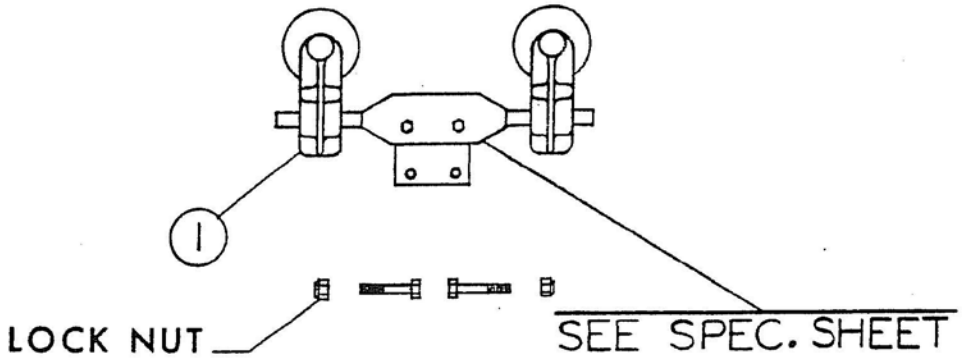


FIG. 2

LINE NO.	FIG. NO.	REF 1		REF 2
		PART	PAGE	PART
1	1	1-201	PC53	———
2	2	1-10	PC55	———
3	1	1-8	PC9	1-1001-4
4	1	1-1	PC3	1-1001-4
5	1	10205	PC3-5	10100104
6	1	10203	PC3-3	10100104



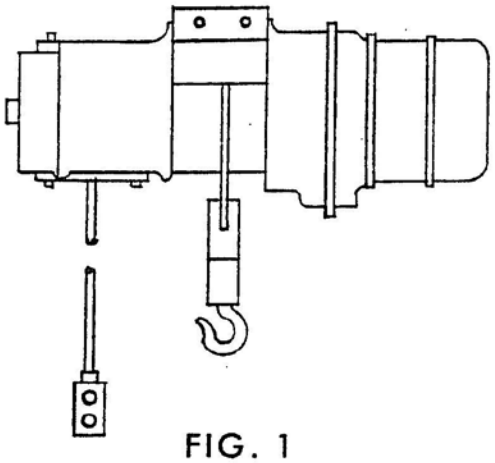
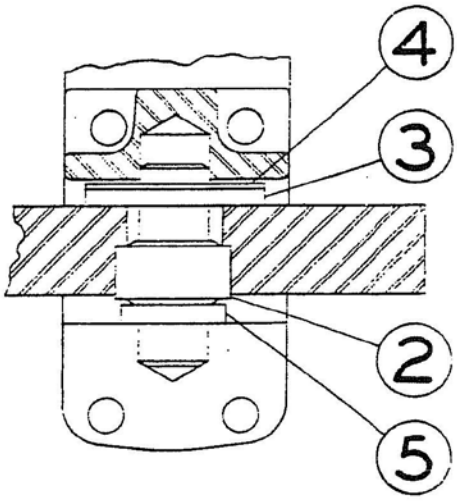


FIG. 1



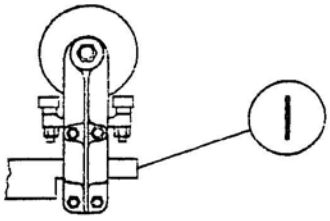
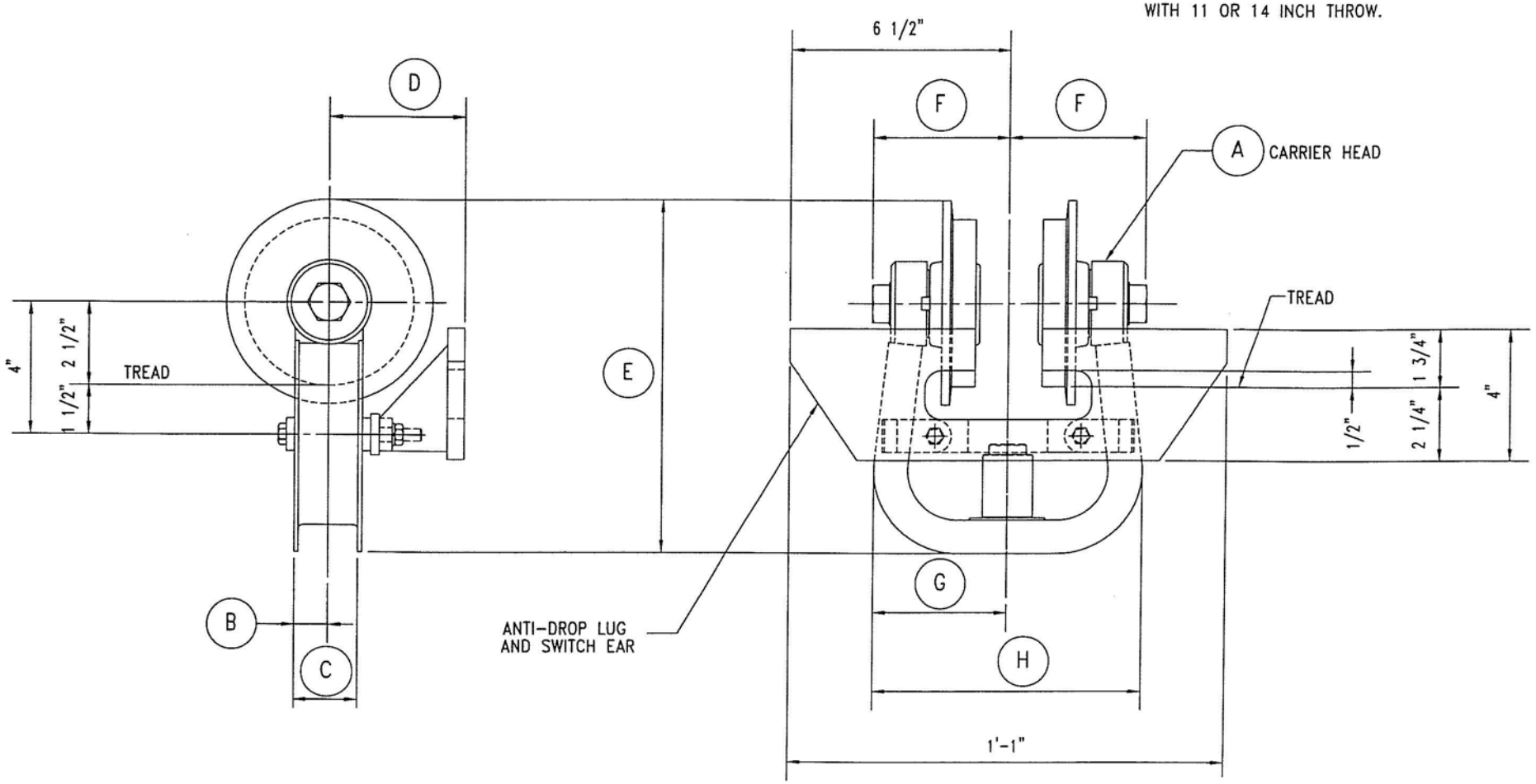


FIG. 2

LINE NO.	FIG. NO.	REF 1		REF 2	REF 3		REF 4		REF 5
		PART	PAGE	PART	PART	QTY.	PART	QTY.	PART
1	1	1–207	PC65	B16–9L	1–2025	2	———	—	7–2005
2	1	1–209	PC69	B20–9L	1–2026	2	1–2024	2	7–2008
3	2	1–208	PC67	B16–9L	1–2025	2	———	—	7–2005
4	2	1–210	PC71	B20–9L	1–2026	2	1–2024	2	7–2008
5	2	1–211	PC73	B20–9L	1–2026	4	1–2024	4	7–2008

COMBINATION ANTI-DROP LUG AND SWITCH EAR FOR

(A) CARRIER HEAD THRU #3, 4 & 5 SWITCHES WITH 11 OR 14 INCH THROW.



10205	1 1/2	3	4 1/2	11 1/8	4 7/16	4 1/2	9
10203	1"	2	4	10 5/8	4 1/16	4	8
'A' CARRIER HEAD	B	C	D	E	F	G	H

Interlock Mechanism

INSTALLATION AND ADJUSTMENT

General

This assembly consists of a heavy cast latch nose mounted on a pair of spring loaded slide rods which move in bearings attached to the beam web. The latch nose supports a pair of safety forks that are raised to allow passage of a carrier by contact with the mating discharge mechanism. The interlock assembly is held retracted by a cam-action, chain operated, throw-out mechanism. When released, the interlock is extended by the spring action to engage the discharge point and raise the safety forks. There is a guide roller mounted on top of the beam flange which, when in contact with the roller guide on the discharge point, holds the mating parts in vertical alignment and controls the gap between beam ends.

Assembly

Interlocks are completely assembled, adjusted and tested at the factory before disassembling and shipping. The interlocks are shipped as completely assembled as possible. The throw-out assembly is removed. Any shims used to line up the slide rod bearings are attached to those particular bearings.

At assembly, slide the interlock into position on the beam. If shims are attached to a pair of bearings, distribute them on both sides of the web to align the bearings with the rods. Mount the throw-out mechanism. Assemble guide roller on the end of crane beam.

Adjustment

For proper performance of interlock and discharge points, it is necessary to maintain the correct dimensional relationship between the mating parts. Although the interlock is factory adjusted and tested, it may be necessary to make field adjustments in order to obtain proper fork lift and clearance.

The standard mounting dimensions provide for operation with 3/16" gap between ends of mating beams. Any deviation plus or minus from this basic dimension as installed in the field will be cause for adjustment. The maximum permissible gap is 3/8" and adjustment of this order is provided for.

Adjustment of the interlock should always be made by checking the position of the latch nose in both the thrown and retracted positions. In the retracted position, the latch nose should overlap the end of the discharge beam by 2 5/16" and clear the end of the discharge plates by a minimum of 1/16". To obtain the above setting, the lock nuts positioning the slide rod lug should be loosened and the latch nose located relative to the discharge point. Reset the lock nuts maintaining the original clearance between the lock nut and slide rod bearing. This clearance should be 2-1/8" in the retracted position. With the latch nose adjusted, spring tension should be increased only as much as is required to hold forks high enough to clear the carrier wheels. This clearance should be approximately 1/4". To adjust the spring tension, an adjusting plug is provided, located between spring and slide rod bearings.

Interlock Mechanism

Electrical conductors should also be adjusted to suit the gap for proper operation. In the proper position conductor bar on the interlock member should lap the end of the discharge beam by 3 7/16", just clearing under the safety fork of the discharge point.

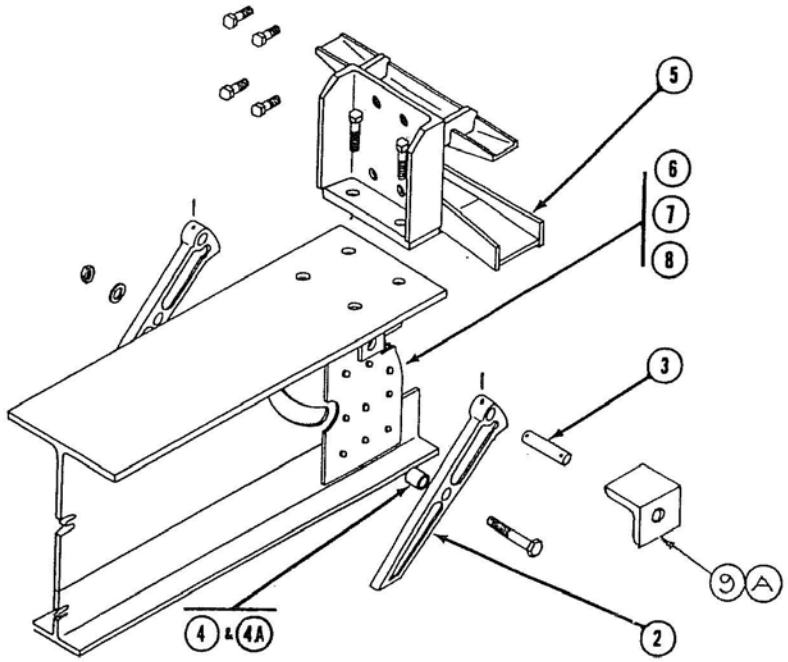
Occasional lubircation of slide rod bearings and throw-out mechanisms will insure easy and friction-free operation of the interlock. Use a good grade of open face gear type lubricant.

DESCRIPTION	TRAMBEAM SIZE							
	10"	11½"	13"	12½"	14"	16"	18" Thru 25"	27½" thru 40"
INTERL. ASSY. L	45-100	45-100	45-100	45-101	45-101	45-101	45-102	45-103
INTERL. ASSY. H				45-106	45-106	45-106	45-107	45-108
SLIDE ROD ASSY.L	45-41C							
SLIDE ROD ASSY.H	45-41D							
THROW-OUT ASSY.L	45-44-E (R.H.) OR 45-44-F (L.H.)							
THROW-OUT ASSY.H	45-44-G (R.H.) OR 45-44-H (L.H.)							

Discharge mechanisms on cranes or spur tracks are assembled on a length of Trambeam at the factory. The roller guide is usually removed for shipping and has to be reassembled in the field.

In extreme instances where a discharge mechanism must be completely mounted in the field, consult Engineering Data Book, Page TT38 for information on cutting and drilling details.

Any adjusting needed for proper performance of the discharge point is accomplished by adjusting the mating interlock mechanism.



INDEX NO.	DESCRIPTION	QTY.	PART NUMBER TYPE L	PART NUMBER TYPE H	REMARKS
1	Discharge Assy.	1	45-30-T	.....	11½&13' BEAM
1A	Discharge Assy.	1	45-30-U	45-31-R	12-½" BEAM
1B	Discharge Assy.	1	45-30-U	45-31-S	14 & 16"BEAM
1C	Discharge Assy.	1	45-30-V	45-31-T	18 thru 25"
1D	Discharge Assy.	1	45-30-W	45-31-U	27-½" & UP
2	Safety Fork	2	45-1006	45-1001	
3	Fork Pin	1	45-1018-C	45-1018-D	
4	Fork Spacer	4	5/8 Wash.	45-1025	
4A	Fork Guide	1	.....	45-1026	
5	Roller Guide	1	45-1007	45-1007	ALL SIZES
6	Side Plate	2	45-1022-C	.....	11½-16"BEAM
6A	Side Plate	2	45-1028-C	.....	18"&UP BEAM
6B	Side Plate	2	.....	45-1022-D	12½&16" BEAM
6C	Side Plate	2	.....	45-1028-D	18"&UP BEAM
7	Shim	Variable	45-1020-C	45-1020-E	.125 THK.
8	Shim	Variable	45-1020-D	45-1020-F	.150 THK.
9	Fork Bracket	2	.....	45-1023	12½" BEAM
9A	Fork Bracket	2	.....	45-1024	14&UP BEAM

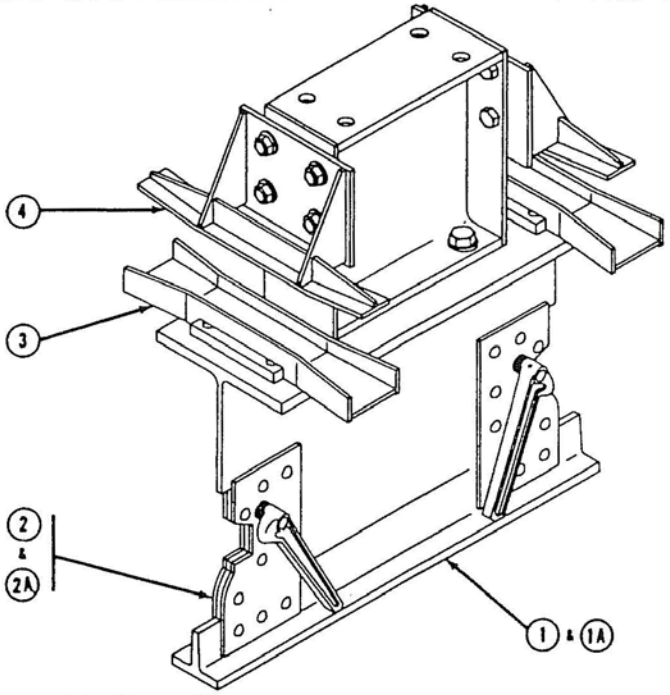
Transfer sections are furnished complete, and generally include the supporting structural and spacer members. The usual method of supporting transfer sections is from a structural member spanning between runway beams. The transfer section should be braced to the runway or the building structure for lateral stability.

With the transfer section located in place between the two adjacent runways, bring the two transfer cranes to the transfer section point. Level and align rail treads and set a clearance of 3/16" ± 1/16" between rails before drilling runway beam top flange.

Operate crane interlocks with transfer section discharge points and adjust for proper fork operation. Drill runway beam top flange and bolt support members securely. To adjust interlock and discharge points refer to instructions and proceed as outlined on Page D-9R1.

If guide roller guides are used, bolt bottom guide (3) and upper guide (4) to beam top flange and transfer section spacer respectively, after adjusting for guide roller travel clearances in guides.

When two or more transfer sections are used on the same runway, be sure they are all set identical as to horizontal and vertical location.

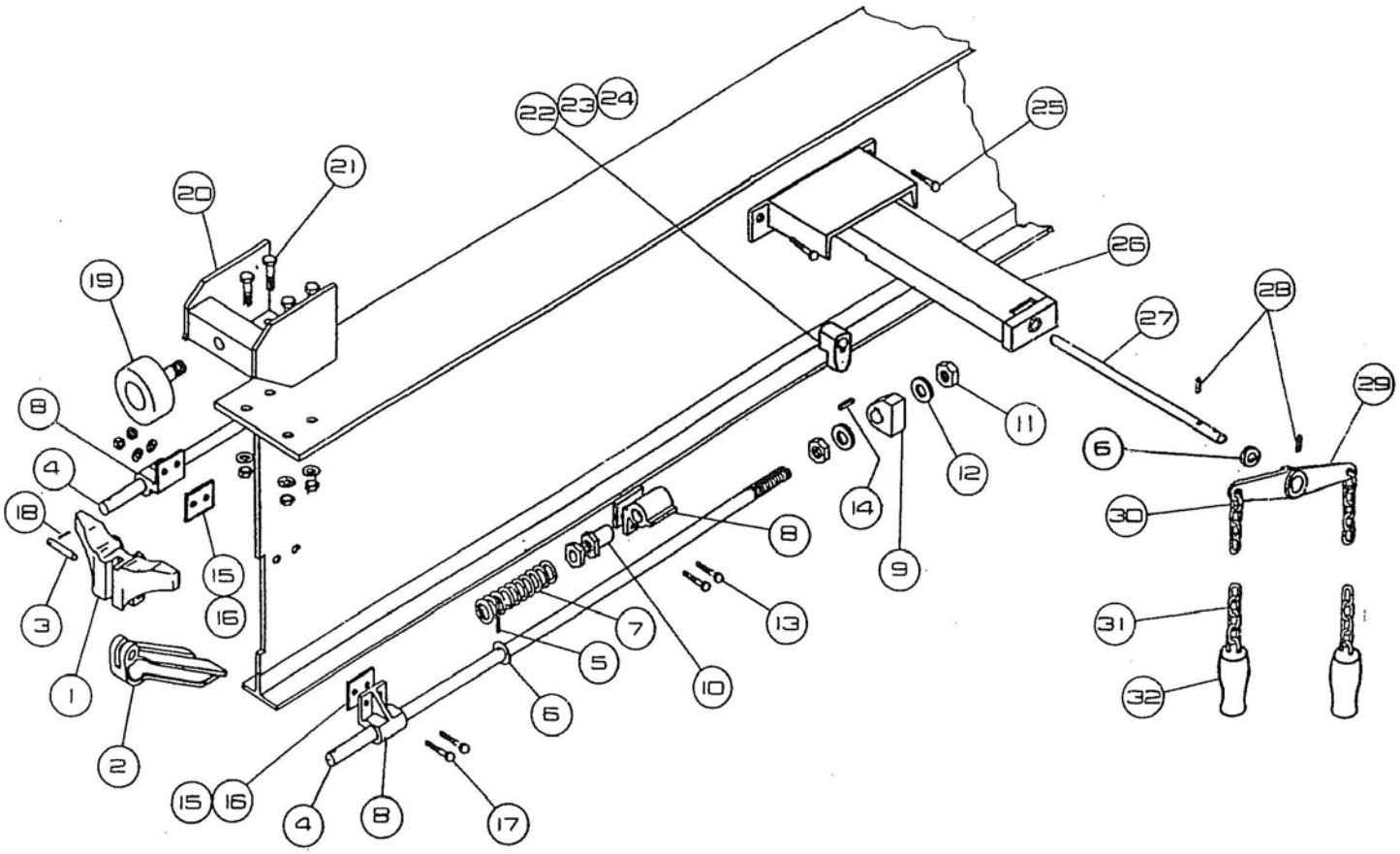


INDEX NO.	DESCRIPTION	NO. REQ'D.	PART NO.	REMARKS
1	TRANSFER SECT. H	1	.....	12½"-20" TRAM
1A	TRANSFER SECT. L	1	.....	11½"-20" TRAM.
2	H DISCHARGE POINT	2	45031	6½" WHEEL
2A	L DISCHARGE POINT	2	45030	5" WHEEL
3	BOTTOM ROLLER GUIDE	2	4501005	
4	UPPER ROLLER GUIDE	2	4501004	

PARTS LIST

TYPE "L"

INTERLOCK MECHANISM



PARTS LIST

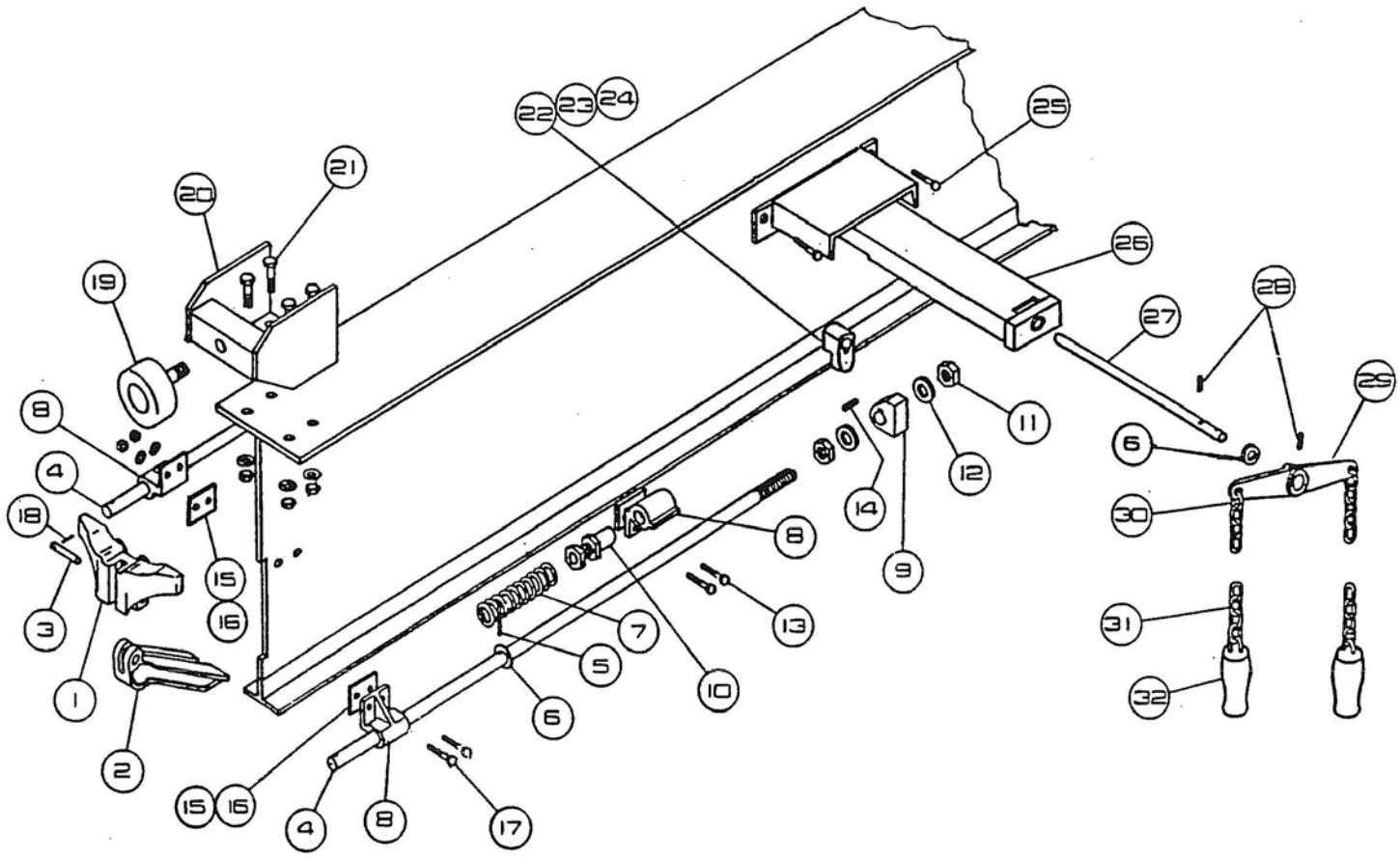
TYPE "L"

INTERLOCK MECHANISM

REF. NO.	PART NO.	DESCRIPTION	REQ'D
1	4502068	LATCH NOSE	1
2	4502078	INTERLOCK FORK	1
3	4501018E	PIN	1
4	4502070C	SLIDE ROD	2
5	480104	1/4 x 2 COTTER PIN	1
6	480093	3/4" SAE WASHER	2
7	4502011	SPRING	1
8	4502016D	SLIDE ROD BEARING	4
9	4502080	SLIDE ROD LUG	1
10	4502077	ADJUSTING PLUG	1
11	480102	3/4 -10 HEX JAM NUT	2
12	480103	3/4 LOCKWASHER	2
13	680375150	3/8 -16 x 1-1/2 CS-N-LW	2
14	480031	1/4 SQ x 1" KEY	1
15	4502020J	SHIMS	(See Table)
16	4502020K	SHIMS	(See Table)
17	680375150	3/8-16 x 1-1/2 CS-N-LW	2
18	480022	ROLL PIN	3
19	4503	GUIDE ROLLER	1
20	4502002	GUIDE ROLLER BRACKET	1
21	680625225	5/8 x 2-1/4 CS-N-LW	4
22	4502081	CAM	1
23	480111	1/4 SQ x 1-1/8 KEY	1
24	480112	1/4 x 3/8 SOCKET HD SET SCREW	1
25	680500150	1/2 x 1-1/2 CS-N-LW	3
26	4502082C	THROWOUT BRACKET	1
27	4502102C	THROWOUT SHAFT	1
28	480025	ROLL PIN	2
29	4502051C	THROWOUT LEVER	1
30	480026	#660 LAP LINK	2
31	480083	#4 ELWELL CHAIN	2
32	4101026	WOODEN HANDLES	2

TRACK SIZE	REF. NO. 15 QUANTITY	REF. NO. 16 QUANTITY
10, 11-1/2, 13	4	8
12-1/2, 14, 16	4	4
18, 20, 22-1/2, 25	-	8
27-1/2 & Up	-	4

PARTS LIST
TYPE "H"
INTERLOCK MECHANISM

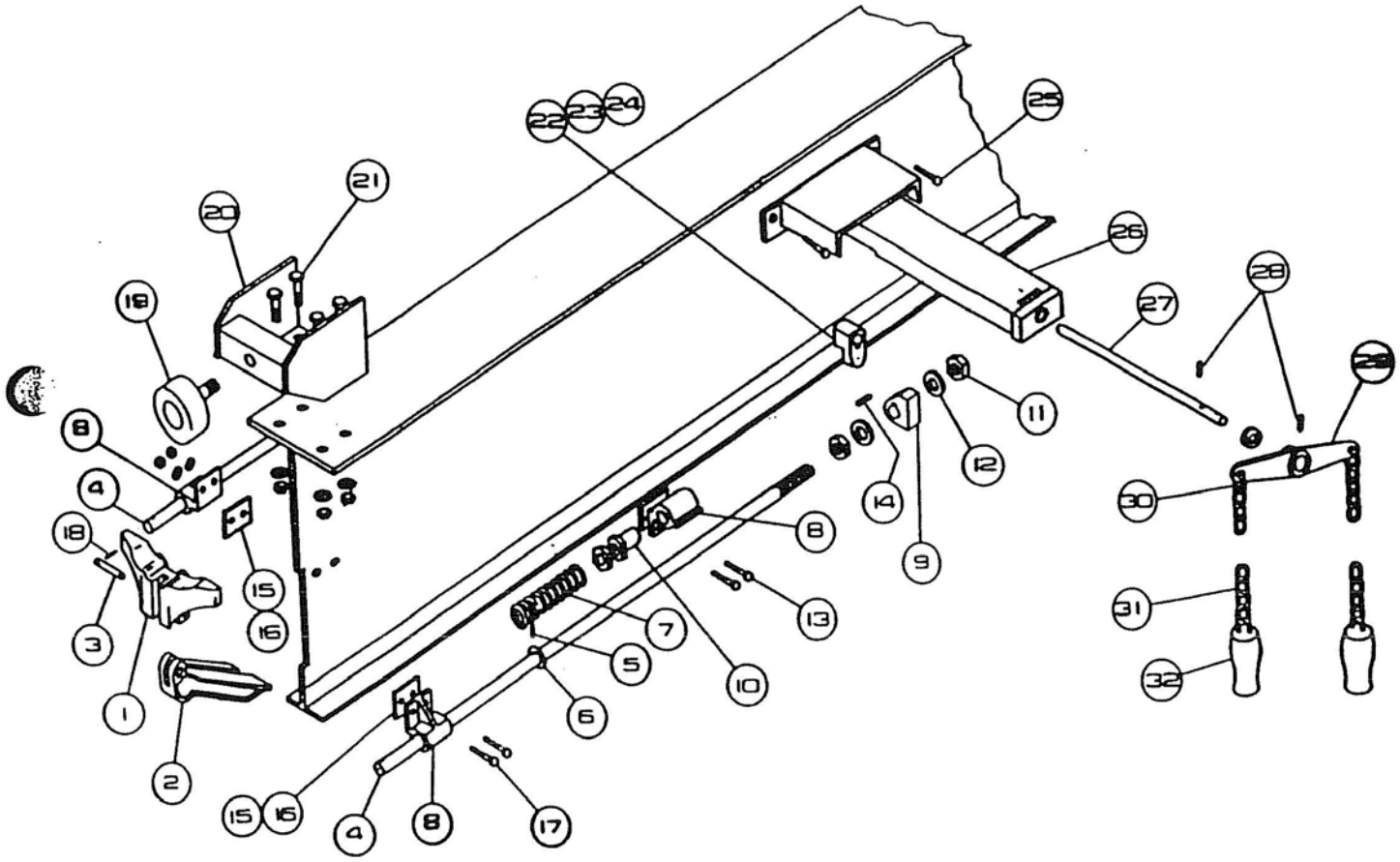


PARTS LIST
TYPE "H"
INTERLOCK MECHANISM

REF. NO.	PART NO.	DESCRIPTION	REQ'D
1	4502069	LATCH NOSE	1
2	4502079	SAFETY FORK	1
3	4501018F	PIN	1
4	4502070D	SLIDE ROD	2
5	480104	1/4 x 2 COTTER PIN	1
6	480093	3/4 S.A.E. WASHER	2
7	4502011	SPRING	1
8	4502016D	SLIDE ROD BEARING	4
9	4502080	SLIDE ROD LUG	1
10	4502077	ADJUSTING PLUG	1
11	480102	3/4 -10 HEX JAM NUT	2
12	480103	3/4 LOCK WASHER	2
13	680375150	3/8-16 x 1-1/2 CS-N-LW	2
14	480031	1/4 SQ x 1" KEY	1
15	4502020J	SHIMS	(See Table)
16	4502020K	SHIMS	(See Table)
17	680375150	3/8-16 x 1-1/2 CS-N-LW	2
18	480022	ROLL PIN	3
19	4503	GUIDE ROLLER	1
20	4502002	GUIDE ROLLER BRACKET	1
21	680625225	5/8 x 2-1/4 CS-N-LW	4
22	4502081	CAM	1
23	480111	1/4 SQ x 1-1/8 KEY	1
24	480112	1/4 x 3/8 SOCKET HD SET SCREW	1
25	680500150	1/2 x 1-1/2 CS-N-LW	3
26	4502082D	THROWOUT BRACKET	1
27	4502102D	THROWOUT SHAFT	1
28	480025	ROLL PIN	2
29	4502055D	THROWOUT LEVER	1
30	480026	#660 LAP LINK	2
31	480083	#4 ELWELL CHAIN	2
32	4101026	WOODEN HANDLES	2

TRACK SIZE	REF. NO. 15 QUANTITY	REF. NO. 16 QUANTITY
12-1/2, 14, 16	4	4
18, 20, 22-1/2, 25	-	8
27-1/2 & Up	-	4

PARTS LIST
TYPE "J"
INTERLOCK MECHANISM

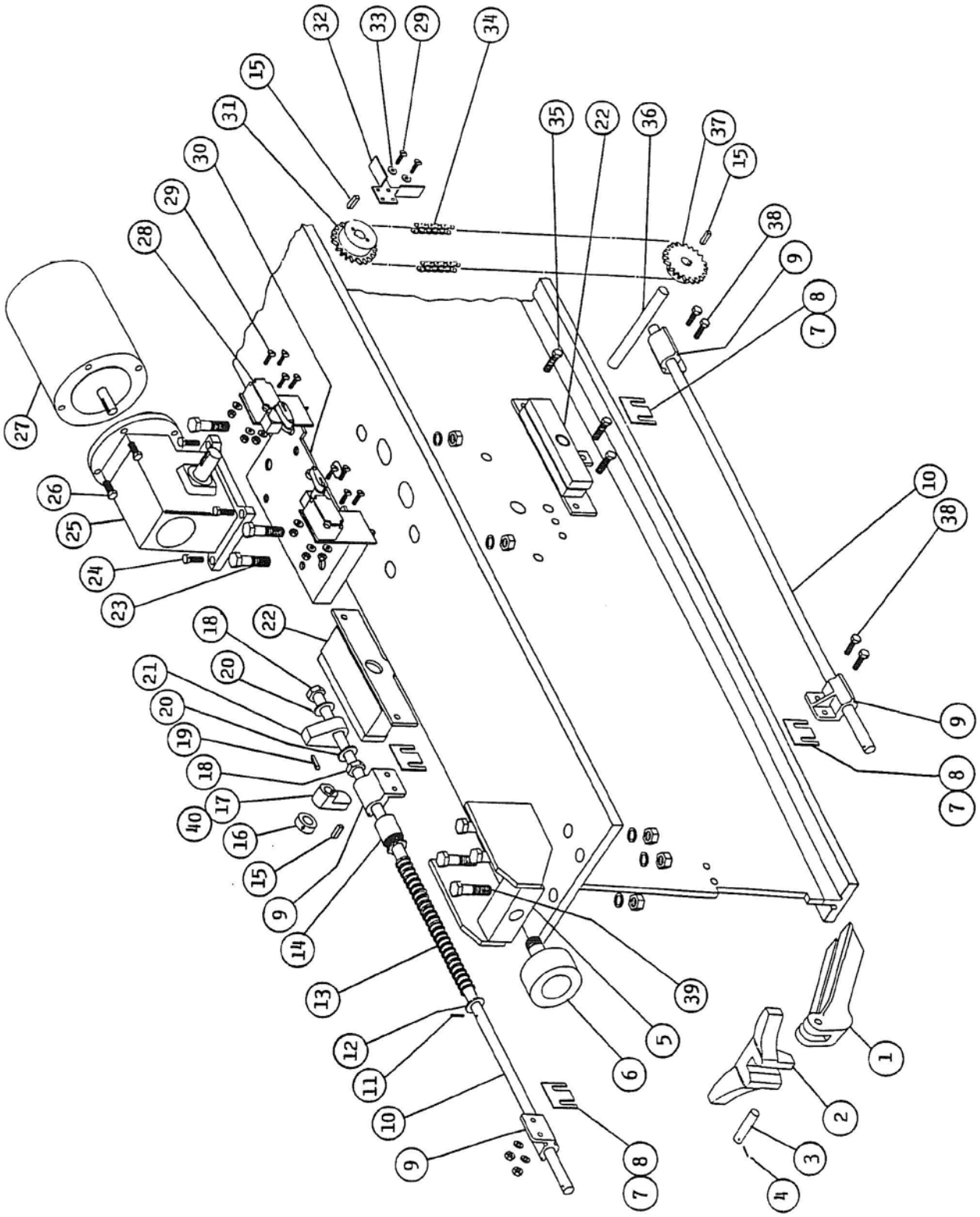


PARTS LIST
TYPE "J"
INTERLOCK MECHANISM

REF. NO.	PART NO.	DESCRIPTION	REQ'd
1	4502069	LATCH NOSE	1
2	4502107	INTERLOCK FORK	1
3	4501018F	PIN	1
4	4502070D	SLIDE ROD	2
5	480104	1/4 x 2 COTTER PIN	2
6	480093	3/4 S.A.E. WASHER	2
7	4502011	SPRING	2
8	4502016D	SLIDE ROD BEARING	4
9	4502080	SLIDE ROD LUG	1
10	4502077	ADJUSTING PLUG	2
11	480102	3/4-10 HEX JAM NUT	2
12	480103	3/4 LOCK WASHER	2
13	680375150	3/8-16 x 1-1/2 CS-N-LW	2
14	480031	1/4 SQ x 1" KEY	2
15	4502020J	SHIMS	(See Table)
16	4502020K	SHIMS	(See Table)
17	680375150	3/8-16 x 1-1/2 CS-N-LW	2
18	480022	ROLL PIN	3
19	4503	GUIDE ROLLER	1
20	4502002	GUIDE ROLLER BRACKET	1
21	680625225	5/8 x 2-1/4 CS-N-LW	4
22	4502081	CAM	1
23	480111	1/4 SQ x 1-1/8 KEY	1
24	480112	1/4 x 3/8 SOCKET HE SET SCREW	1
25	680500150	1/2 x 1-1/2 CS-N-LW	3
26	4502082D	THROWOUT BRACKET	1
27	4502102D	THROWOUT SHAFT	1
28	480025	ROLL PIN	2
29	4502055D	THROWOUT LEVER	1
30	480026	#660 LAP LINK	2
31	480083	#4 ELWELL CHAIN	2
32	4101026	WOODEN HANDLES	2

TRACK SIZE	REF. NO. 15 QUANTITY	REF. NO. 16 QUANTITY
16	4	4
18, 20, 22-1/2, 25	-	8
27-1/2 & Up	-	4

PARTS LIST
TYPE "L"
MOTORIZED INTERLOCK
(TOP FLG. MOUNTED)



PARTS LIST
TYPE "L"
MOTORIZED INTERLOCK
(TOP FLG. MOUNTED)

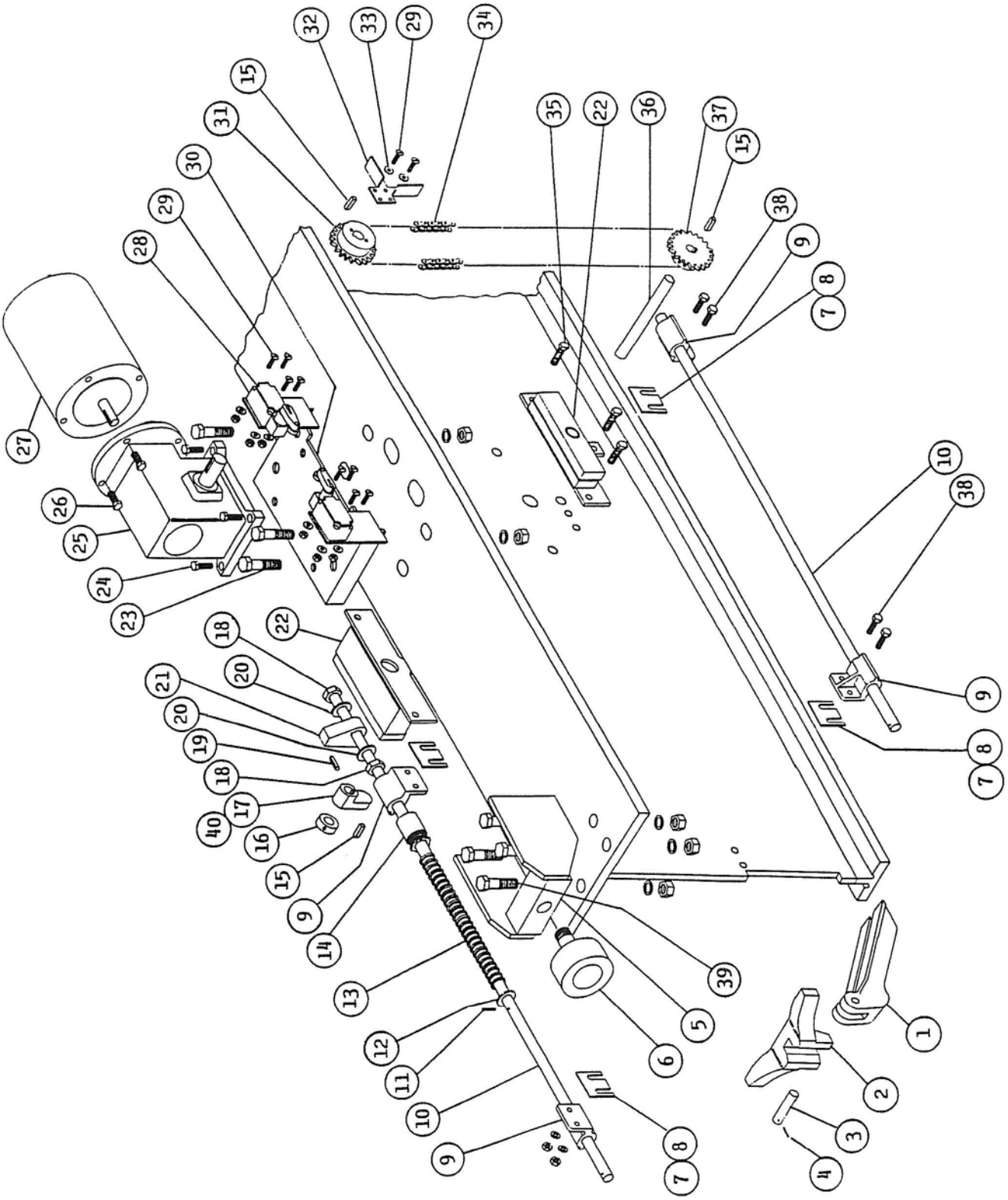
REF NO.	PART NO.	DESCRIPTION	REQ'D
1	4502078	SAFETY FORK	1
2	4502068	LATCH NOSE	1
3	4501018E	PIN	1
4	480022	ROLL PIN	3
5	4502002	GUIDE ROLLER BRACKET	1
6	4503	GUIDE ROLLER	1
7	4502020J	SHIMS	(See Table)
8	4502020K	SHIMS	(See Table)
9	4502016D	SLIDE ROD BEARING	4
10	4502070C	SLIDE ROD	2
11	480104	1/4 x 2 COTTER PIN	1
12	480093	3/4 S.A.E. WASHER	1
13	4502011	SPRING	1
14	4502077	ADJUSTING PLUG	1
15		1/4 SQ RND END KEY x 1-1/16"	3
16		SET COLLAR	1
17	4502081	CAM	1
18	480102	3/4-10 HEX JAM NUT	2
19	480031	1/4 SQ x 1" KEY	1
20	480103	3/4 LOCKWASHER	2
21	4502080	SLIDE ROD LUG	1
22		THROWOUT BRACKET (2 PCS)	1
23	681625300	5/8-18 x 3 HTCS-N-LW-CW	4
24	680375150	3/8 x 1-1/2 CS-N-LW	4
25		REDUCER	1
26	680375100	3/8-16 x 1 CS-LW	4
27		MOTOR	1
28		LIMIT SWITCH WITH LEVER	2
29		1/4-20 RHMS x 1/2"	10
30		REDUCER BASE SUPPORT	1
31		UPPER SPROCKET	1
32		LIMIT SWITCH TRIP	1
33		1/4 LOCKWASHER	2
34		CHAIN (SEE TABLE FOR LENGTH)	1
35	680500150	1/2 x 1-1/2 CS-N-LW	3
36		THROWOUT SHAFT	1
37		LOWER SPROCKET	1
38	680375150	3/8 x 1-1/2 CS-N-LW	4
39	680625225	5/8 x 2-1/4 CS-N-LW	4
40	480112	1/4 x 3/8 SOCKET HD SET SCREW	1

CONTROLS NOT SHOWN

TRACK SIZE	REF. NO. 7 QUANTITY	REF. NO. 8 QUANTITY
11-1/2, 13	4	8
12-1/2, 14, 16	4	4
18, 20, 22-1/2, 25	-	8

TRACK SIZE	CHAIN LENGTH (IN PITCHES)
11-1/2	51
12-1/2	54
13	57
14	60
16	68
18	76
20	84
22-1/2	94
25	104

TYPE "H"
MOTORIZED INTERLOCK
(TOP FLG. MOUNTED)



PARTS LIST
TYPE "H"
MOTORIZED INTERLOCK
(TOP FLG. MOUNTED)

REF. NO.	PART NO.	DESCRIPTION	REQ'D
1	4502079	SAFETY FORK	1
2	4502069	LATCH NOSE	1
3	4501018F	PIN	1
4	480022	ROLL PIN	3
5	4502002	GUIDE ROLLER BRACKET	1
6	4503	GUIDE ROLLER	1
7	4502020J	SHIMS	(See Table)
8	4502020K	SHIMS	(See Table)
9	4502016D	SLIDE ROD BEARING	4
10	4502070D	SLIDE ROD	2
11	480104	1/4 x 2 COTTER PIN	1
12	480093	3/4 S.A.E. WASHER	1
13	4502011	SPRING	1
14	4502077	ADJUSTING PLUG	1
15		1/4 SQ RND END KEY x 1-1/16"	3
16		SET COLLAR	1
17	4502081	CAM	1
18	480102	3/4-10 HEX JAM NUT	2
19	480031	1/4 SQ x 1" KEY	1
20	480103	3/4 LOCKWASHER	2
21	4502080	SLIDE ROD LUG	1
22		THROWOUT BRACKET (2 PCS)	1
23	681625300	5/8-18 x 3 HTCS-N-LW-CW	4
24	680375150	3/8 x 1-1/2 CS-N-LW	4
25		REDUCER	1
26	680375100	3/8-16 x 1 CS-LW	4
27		MOTOR	1
28		LIMIT SWITCH WITH LEVER	2
29		1/4-20 RHMS x 1/2"	10
30		REDUCER BASE SUPPORT	1
31		UPPER SPROCKET	1
32		LIMIT SWITCH TRIP	1
33		1/4 LOCKWASHER	2
34		CHAIN (See Table for Length)	1
35	680500150	1/2 x 1-1/2 CS-N-LW	3
36		THROWOUT SHAFT	1
37		LOWER SPROCKET	1
38	680375150	3/8 x 1-1/2 CS-N-LW	4
39	680625225	5/8 x 2-1/4 CS-N-LW	4
40	480112	1/4 x 3/8 SOCKET HD SET SCREW	1

CONTROLS NOT SHOWN

TRACK SIZE	REF. NO. 7 QUANTITY	REF. NO. 8 QUANTITY
12-1/2, 14, 16	4	4
18, 20, 22-1/2, 25	-	8

TRACK SIZE	CHAIN LENGTH (IN PITCHES)
12-1/2	46
14	52
16	60
18	68
20	76
22-1/2	86
25	96

INSTALLATION AND ADJUSTMENT

General

This assembly consists of a heavy cast latch nose mounted on a pair of spring loaded slide rods which move in bearings attached to the beam web. The latch nose supports a pair of safety forks that are raised to allow passage of a carrier by contact with the mating discharge mechanism. The interlock assembly is held retracted by a cam-action, chain operated, motor actuated throw-out mechanism. When released, the interlock is extended by the spring action to engage the discharge point and raise the safety forks. There is a guide roller mounted on top of the beam flange which holds the mating parts in vertical alignment and controls the gap between beam ends.

Assembly

Motorized interlocks are completely assembled, adjusted and tested at the factory before shipping. The interlock slide rod assembly is shipped completely assembled to the beam. In some instances where the slide rod assembly is shipped loose for field attachment, the slide rod assembly should be slid into position on the web of the beam, with a slide rod on each side of web and attached to the beam. Slide rod bearing shims are attached to the bearings, distribute them on both side of the web to align the bearings with the rods. The motoreducer is mounted to a reducer base which also supports two (2) limit switches. One (1) limit switch controls the interlock motor's clockwise and counter clockwise rotation and the other limit switch breaks the crane's bridge forward and reverse motion circuits. The motoreducer base unit is shipped loose for field mounting to the beam with cap screws provided. Motor and limit switch leads should be wired to the crane circuit following numbered lugs on leads and furnished wiring diagram.

The throw-out roller chain should be field installed between sprockets. Shims may be required under reducer base to increase chain tension.

Adjustment

For proper performance of interlock and discharge points, it is necessary to maintain the correct dimensional relationship between the mating parts. Although the interlock is factory adjusted and tested, it may be necessary to make field adjustments in order to obtain proper fork lift and clearance.

The standard mounting dimensions provide for operation with 3/16" gap between ends of mating beams. Any deviation plus or minus from this basic dimension as installed in the field will be cause for adjustment. The maximum permissible gap is 3/8" and adjustment of this order is provided for.

Adjustment of interlock should always be made by checking the position of the latch nose in both the thrown and retracted positions. In the retracted position, the latch nose should overlap the end of the discharge beam by 2-5/16" and clear the end of the discharge plates by a minimum of 1/16".

To obtain the fore mentioned setting, the lock nuts positioning the slide rod lug should be loosened and the latch nose located relative to the discharge point. Reset the lock nuts maintaining the original clearance between the inside face of the slide rod lug and the slide rod bearing. This clearance should be 2-3/4" in the retracted position. With the latch nose adjusted, spring tension should be increased only as much as is required to hold forks high enough to clear the carrier wheels. This clearance should be approximately 1/4". To adjust the spring tension, an adjusting plug is provided, located between the spring and slide rod bearings.

Electrical conductors should also be adjusted to suit the gap for proper operation. In the proper position conductor bar on the interlock member should lap the end of the discharge beam by 3-7/16", just clearing under the safety fork of the discharge point.

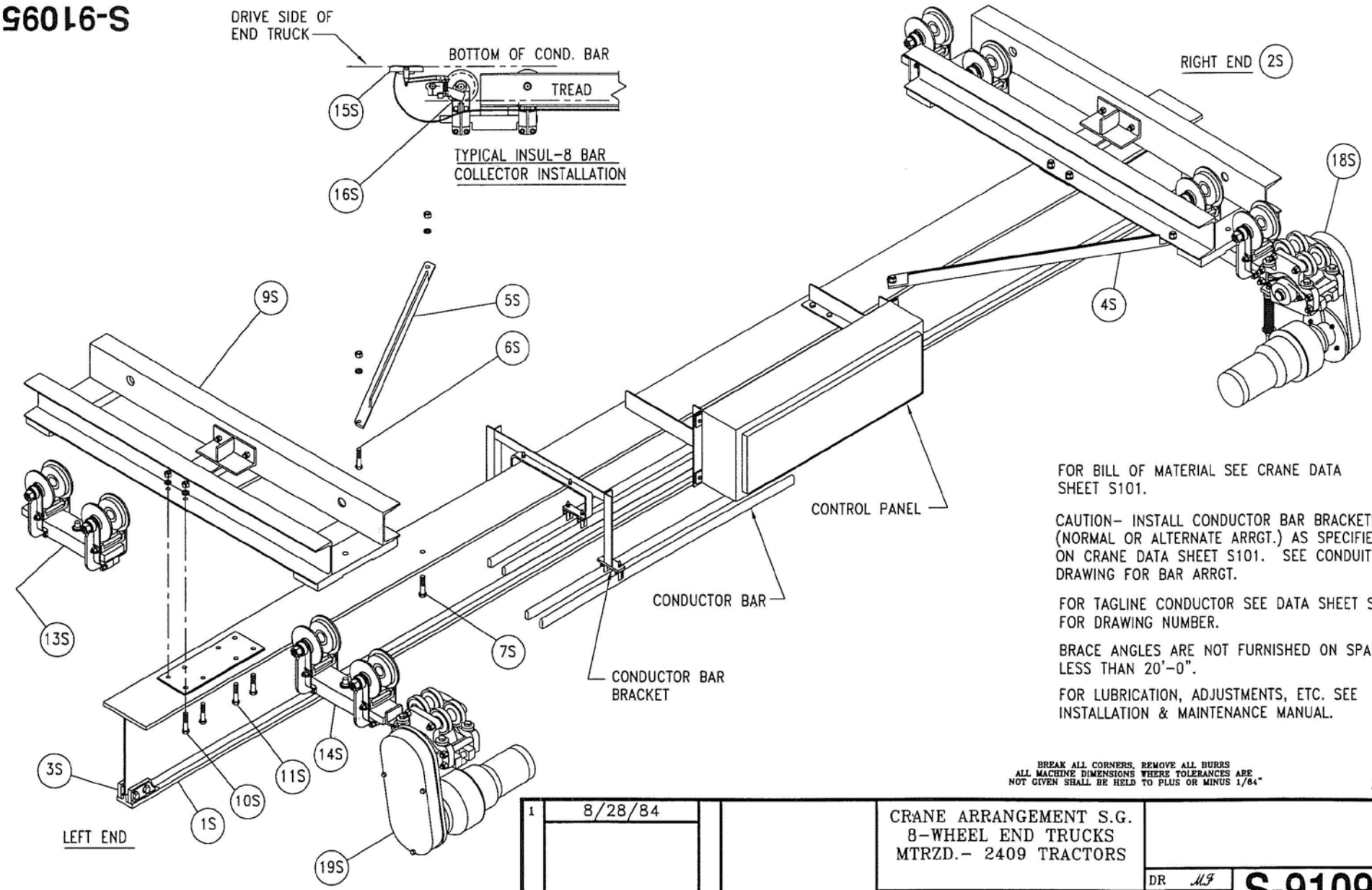
Occasional lubrication of slide rod bearings and throw-out mechanisms will insure easy and friction-free operation of the interlock. Use a good grade of open face gear type lubricant. The reducer is properly filled at the factory with sufficient lubricant that is formulated for extreme long life. Do not add or remove oil at installation or change oil after break-in. See reducer instruction manual for recommended oil change and the type of lubricant.

Double Girder Interlock Mechanisms

Double girder interlock mechanisms are installed at one end or both ends of both girders. The latch and slide rod assemblies are the same as used on single girder cranes. The throw-out mechanism is designed to operate both interlocks at one end, actuated by one motoreducer mounted on Girder 'A', connected to Girder 'B' by a cross shaft to an idler assembly.

Adjustment of double girder slide rod assemblies are the same as a single girder and should be made in accordance with instructions outlined previously.

S-91095



FOR BILL OF MATERIAL SEE CRANE DATA SHEET S101.

CAUTION- INSTALL CONDUCTOR BAR BRACKETS (NORMAL OR ALTERNATE ARRGT.) AS SPECIFIED ON CRANE DATA SHEET S101. SEE CONDUIT DRAWING FOR BAR ARRGT.

FOR TAGLINE CONDUCTOR SEE DATA SHEET S101 FOR DRAWING NUMBER.

BRACE ANGLES ARE NOT FURNISHED ON SPANS LESS THAN 20'-0".

FOR LUBRICATION, ADJUSTMENTS, ETC. SEE INSTALLATION & MAINTENANCE MANUAL.

BREAK ALL CORNERS, REMOVE ALL BURRS
ALL MACHINE DIMENSIONS WHERE TOLERANCES ARE NOT GIVEN SHALL BE HELD TO PLUS OR MINUS 1/64"

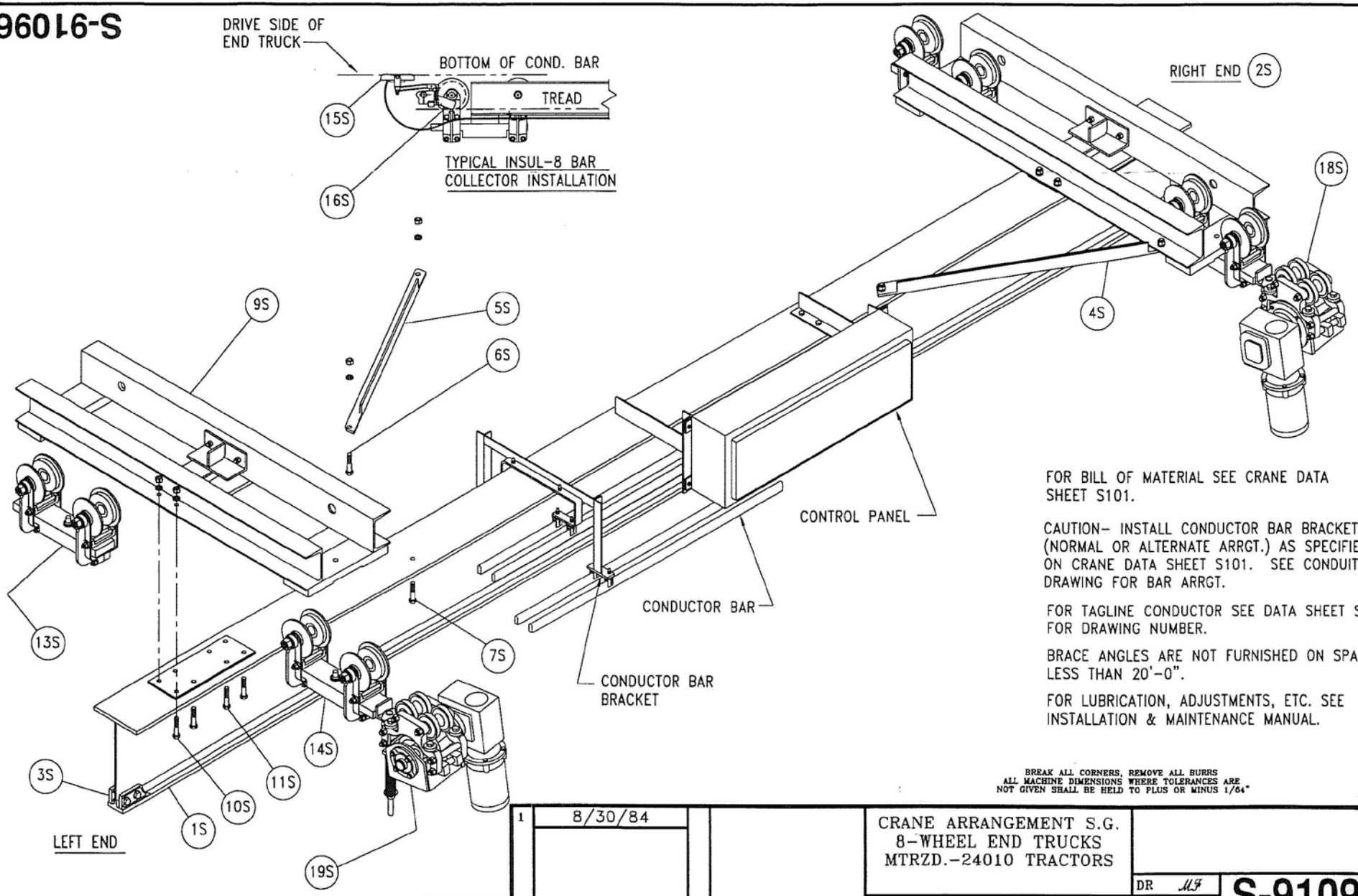
A1C

1	8/28/84		CRANE ARRANGEMENT S.G. 8-WHEEL END TRUCKS MTRZD.- 2409 TRACTORS	DR MJ
			SCALE NTS	DATE 9/11/84 APPR JMP

S-91095

PLOT FACTOR 1-16

96016-S



FOR BILL OF MATERIAL SEE CRANE DATA SHEET S101.

CAUTION- INSTALL CONDUCTOR BAR BRACKETS (NORMAL OR ALTERNATE ARRGT.) AS SPECIFIED ON CRANE DATA SHEET S101. SEE CONDUIT DRAWING FOR BAR ARRGT.

FOR TAGLINE CONDUCTOR SEE DATA SHEET S101 FOR DRAWING NUMBER.

BRACE ANGLES ARE NOT FURNISHED ON SPANS LESS THAN 20'-0".

FOR LUBRICATION, ADJUSTMENTS, ETC. SEE INSTALLATION & MAINTENANCE MANUAL.

BREAK ALL CORNERS, REMOVE ALL BURRS
ALL MACHINE DIMENSIONS WHERE TOLERANCES ARE NOT GIVEN SHALL BE HELD TO PLUS OR MINUS 1/64"

A1C

PLOT FACTOR 1=16

1	8/30/84		CRANE ARRANGEMENT S.G. 8-WHEEL END TRUCKS MTRZD.-24010 TRACTORS	
			SCALE NTS	DATE 9/11/84
			DR MJ	APPR JKP

S-91096

END TRUCK
4 WHEEL

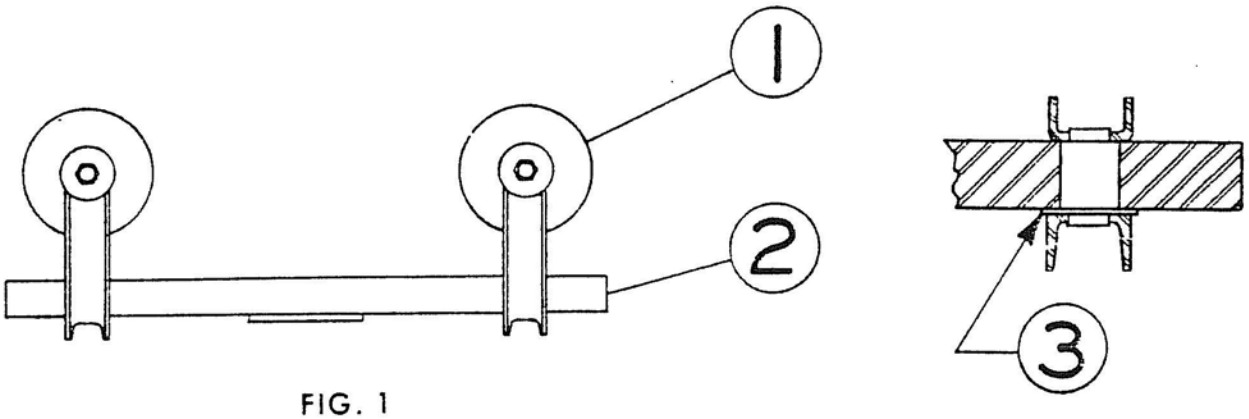


FIG. 1

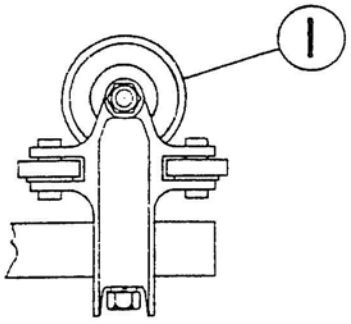
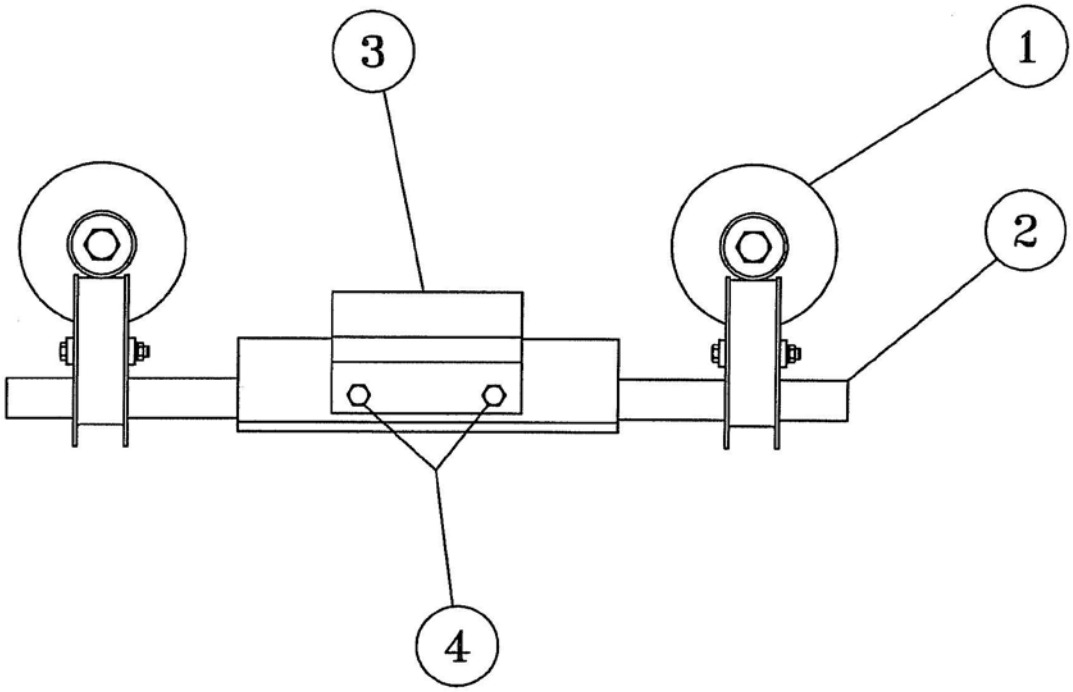


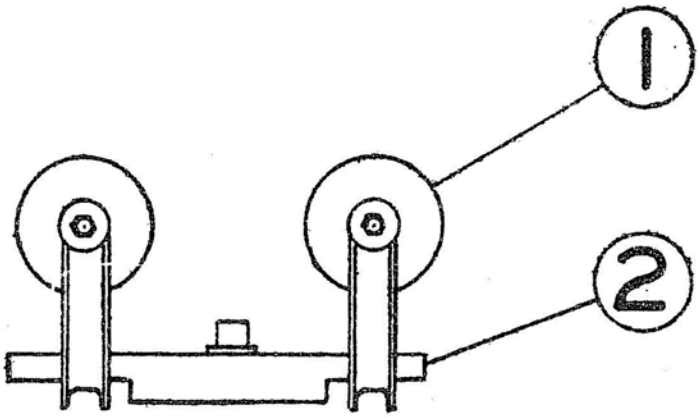
FIG. 2

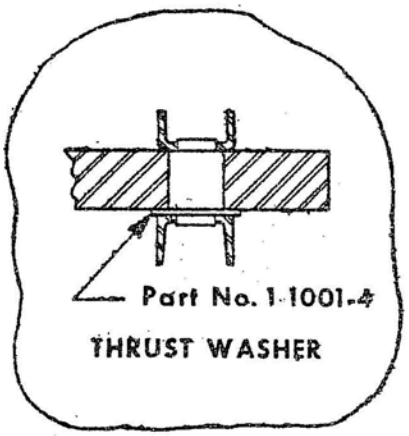
LINE NO.	FIG. NO.	TRUCK NO.	REF 1		REF 2	REF 3
			PART	PAGE	PART	PART
1	1	17–302	1–201	PC53	17–2101	———
2	2	17–402	1–10	PC55	17–2101	———
3	1	17–103	1–8	PC9	17–2102	1–1001–4

PARTS LIST
END TRUCK
4 WHEEL



LINE NO.	TRUCK NO.	REF. 1		REF. 2	REF. 3	REF. 4
		PART	PAGE	PART	PART	PART
1	170301	010205	PC-3-5	1702119	1702057	1/2-20 X 5 HTCS-N-LW
2	170302	010201	PC-53	1702101	1702057	1/2-20 X 4 1/2 HTCS-N-LW
3	170303	010203	PC-3-3	1702119	1702057	1/2-20 X 5 HTCS-N-LW





LINE NO.	CARRIER NO.	REF 1		REF 2
		PART	PAGE	PART
1	11-200	1-8	PC9	7-200
2	11-201	1-1	PC3	7-200

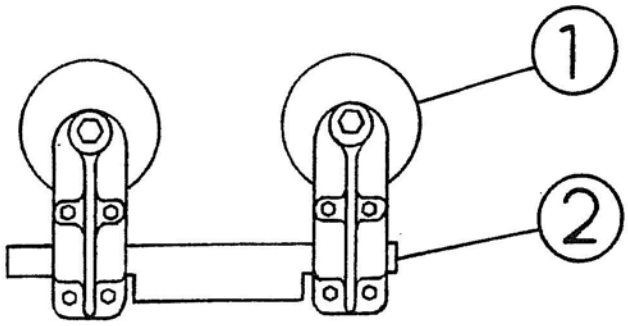
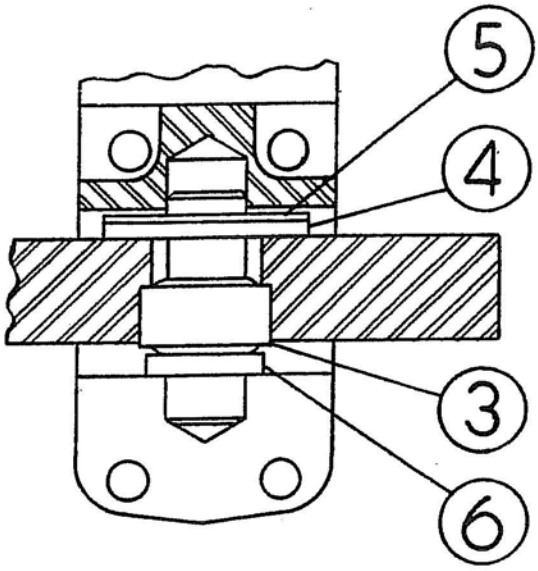


FIG 1



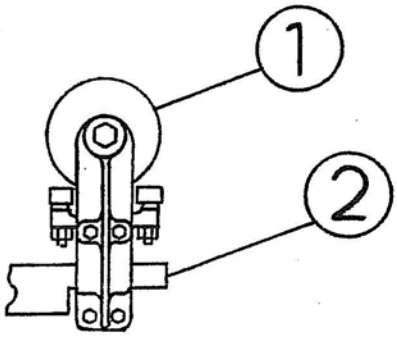
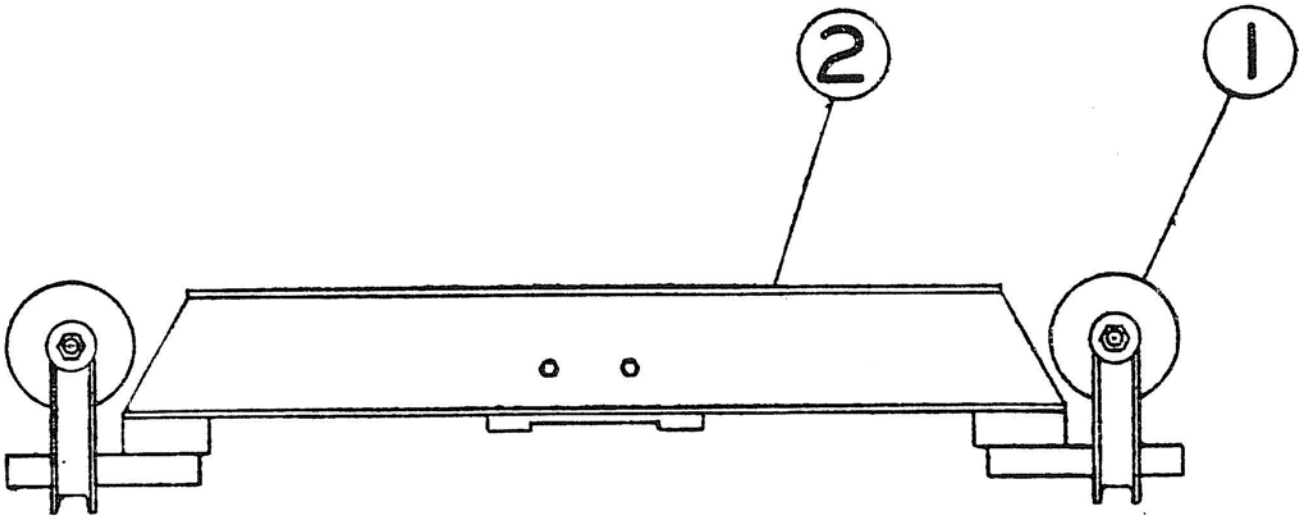
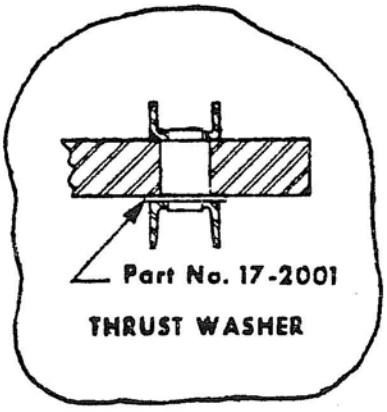


FIG 2

LINE NO.	FIG NO.	CARRIER NO.	REF 1		REF 2	REF 3	REF 4		REF 5		REF 6
			PART	PAGE	PART	PART	PART	QTY	PART	QTY	PART
1	1	11-325	1-207	PC65	7-202	B16-9L	1-2025	2	———	———	7-2004
2	1	11-326	1-209	PC69	7-203	B20-9L	1-2026	2	1-2024	2	7-2046
3	2	11-425	1-208	PC67	7-202	B16-9L	1-2025	2	———	———	7-2004
4	2	11-426	1-210	PC71	7-203	B20-9L	1-2026	2	1-2024	2	7-2046
5	2	11-427	1-211	PC73	7-204	B20-9L	1-2026	4	1-2024	4	7-2046

END TRUCK
4 WHEEL
200 SERIES





LINE NO.	TRUCK NO.	REF 1		REF 2
		PART	PAGE	PART
1	17–106	1–1	PC3	17–2005
2	17–104	1–8	PC9	17–2005

END TRUCK
4 WHEEL
300 AND 400 SERIES

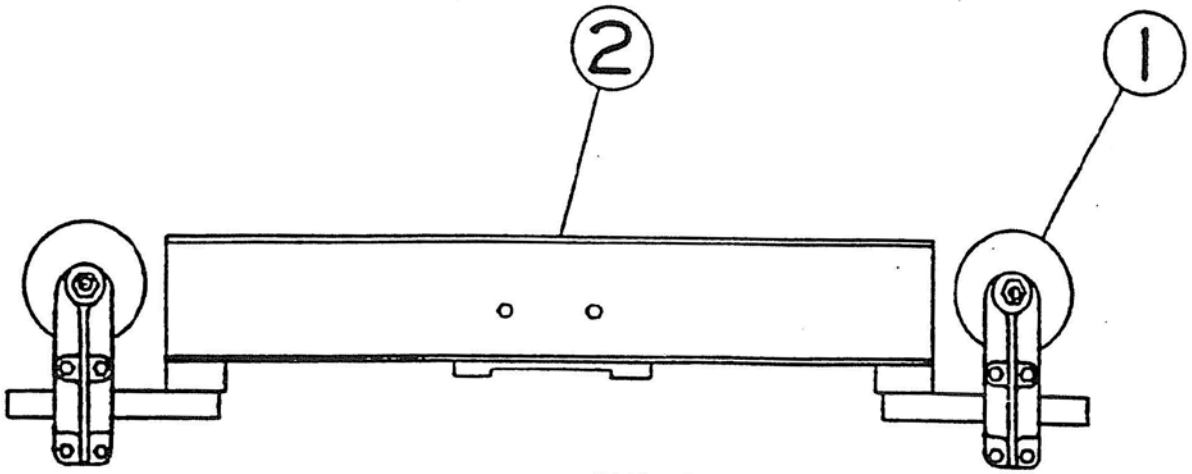


FIG. 1

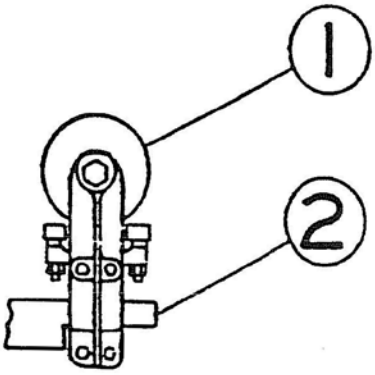
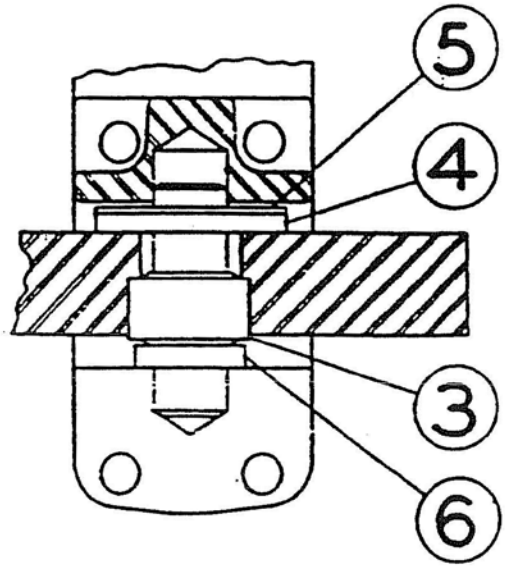


FIG. 2



LINE NO.	FIG. NO.	TRUCK NO.	REF 1		REF 2	REF 3	REF 4		REF 5		REF 6
			PART	PAGE	PART	PART	PART	QTY.	PART	QTY.	PART
1	1	17–308	1–207	PC65	17–2103	B16–9L	1–2025	2	———	——	7–2005
2	1	17–314	1–209	PC69	17–2104	B20–9L	1–2024	2	1–2023	2	7–2008
3	2	17–408	1–208	PC67	17–2103	B16–9L	1–2025	2	———	——	7–2005
4	2	17–414	1–210	PC71	17–2104	B20–9L	1–2024	2	1–2023	2	7–2008
5	2	17–416	1–211	PC73	17–2105	B20–9L	1–2024	4	1–2023	4	7–2008

PARTS LIST

END TRUCK

4 WHEEL

300 AND 400 SERIES

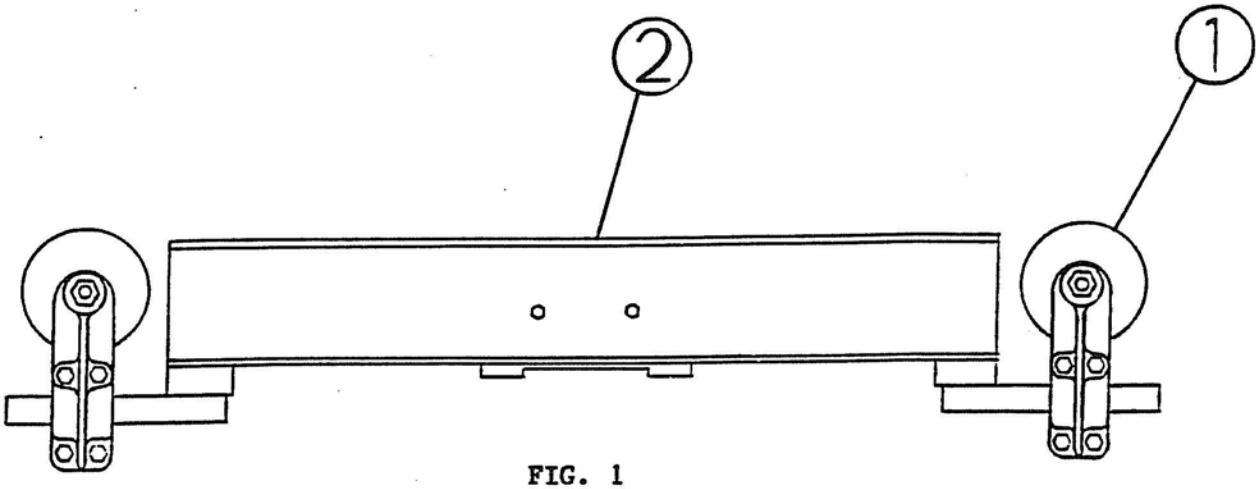
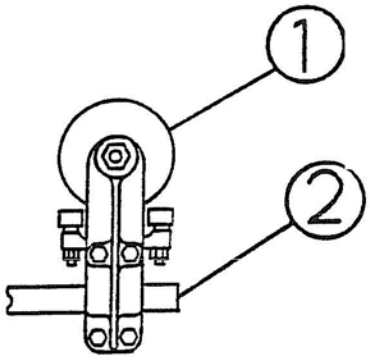


FIG. 1



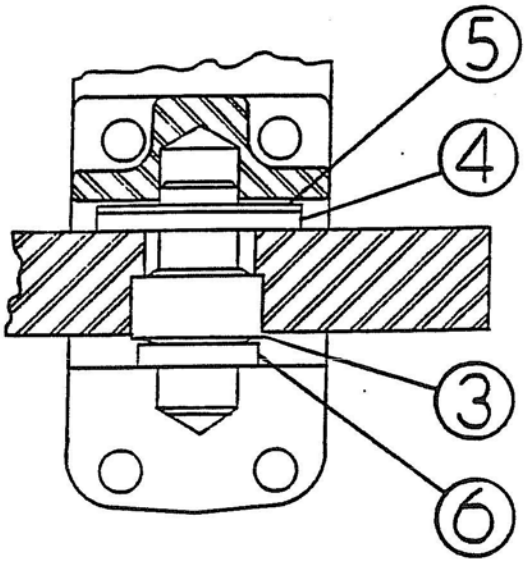


FIG. 2

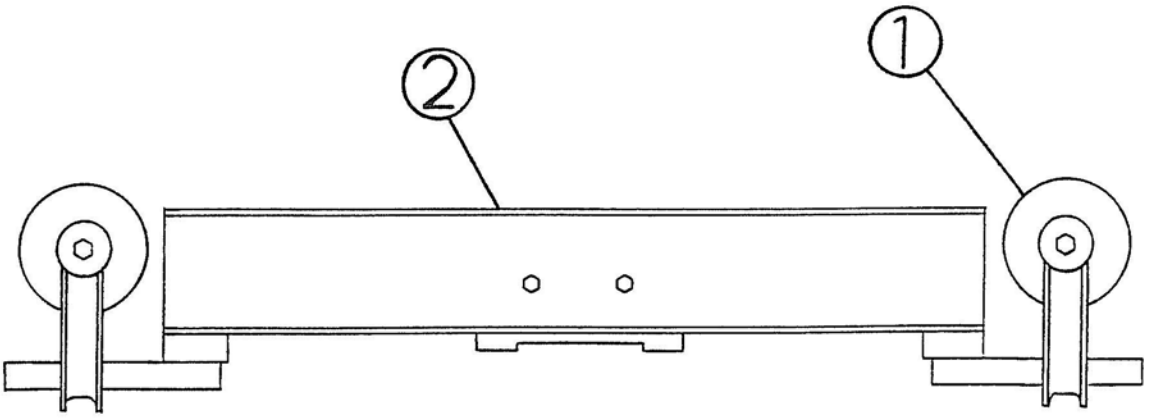
LINE NO.	FIG. NO.	TRUCK NO.	REF. 1		REF. 2	REF. 3	REF. 4		REF. 5		REF. 6
			PART	PAGE	PART	PART	PART	QTY.	PART	QTY.	PART
1	1	17-309	1-207	PC-65	17-2112	B16-9L	1-2025	2	-----	---	7-2005
2	1	17-315	1-209	PC-69	17-2113	B20-9L	1-2026	2	1-2024	2	7-2008
3	2	17-409	1-208	PC-67	17-2112	B16-9L	1-2025	2	-----	---	7-2005
4	2	17-415	1-210	PC-71	17-2113	B20-9L	1-2026	2	1-2024	2	7-2008
5	2	17-417	1-211	PC-73	17-2114	B20-9L	1-2026	4	1-2024	4	7-2008

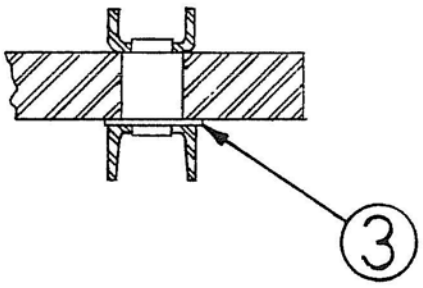
PARTS LIST

END TRUCK

4 WHEEL

300 SERIES





LINE NO.	TRUCK NO.	REF. 1		REF. 2	REF. 3
		PART	PAGE	PART	PART
1	17-304	1-203	PC-3-3	17-2005	17-2001
2	17-305	1-203	PC-3-3	17-2009	17-2001
3	17-306	1-205	PC-3-5	17-2005	17-2001
4	17-307	1-205	PC-3-5	17-2009	17-2001

END TRUCK
4 WHEEL
300 AND 400 SERIES

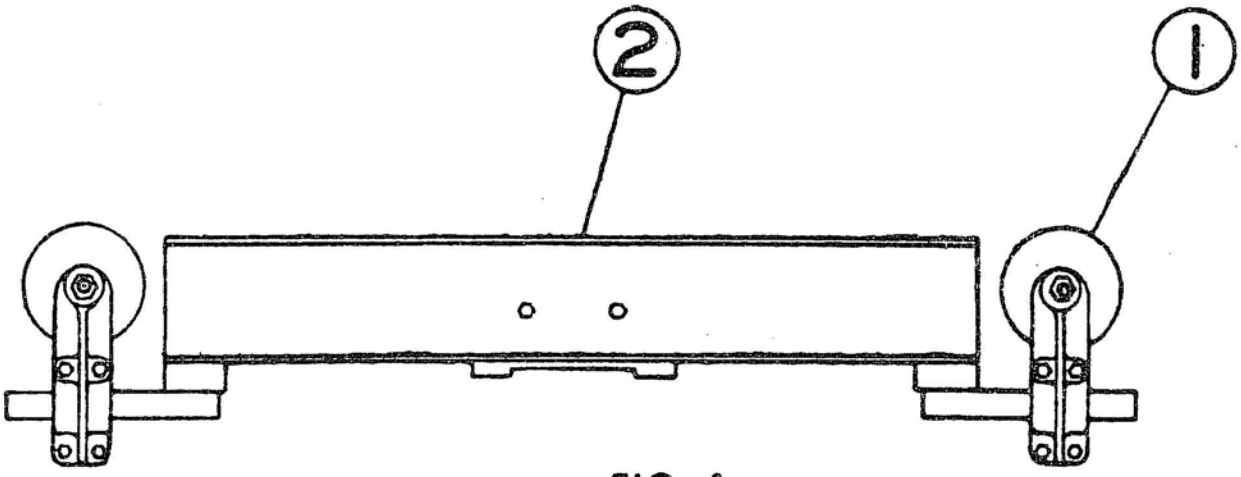


FIG. 1

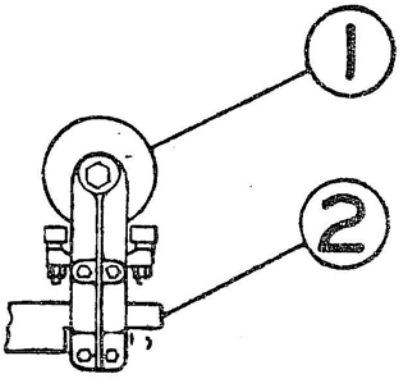
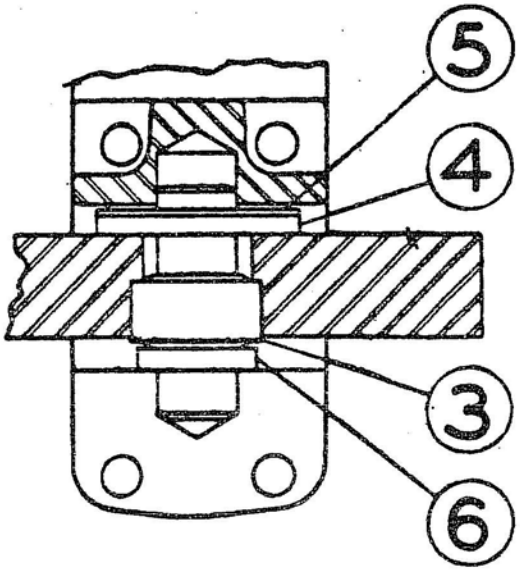


FIG. 2



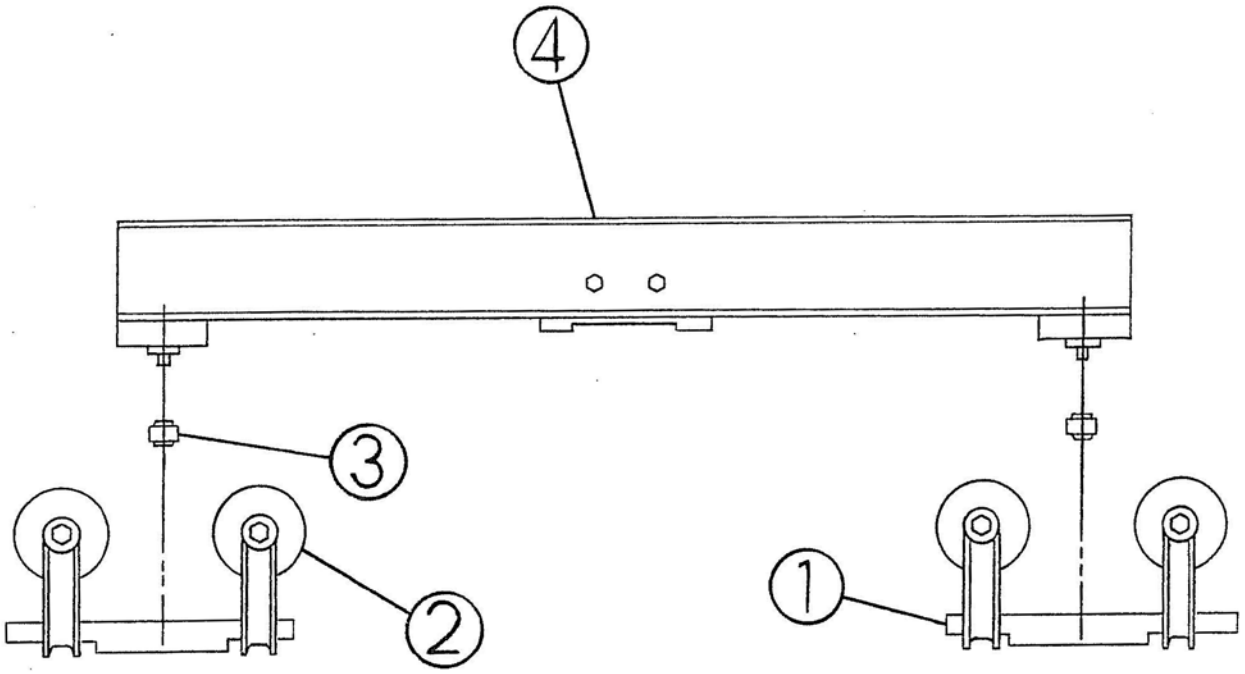
LINE NO.	FIG. NO.	TRUCK NO.	REF 1		REF 2	REF 3	REF 4		REF 5		REF 6
			PART	PAGE	PART	PART	PART	QTY.	PART	QTY.	PART
1	1	17-308	1-207	PC65	17-2103	B16-9L	1-2025	2	———	—	7-2005
2	1	17-315	1-209	PC69	17-2103	B20-9L	1-2024	2	1-2026	2	7-2008
3	2	17-408	1-208	PC67	17-2103	B16-9L	1-2025	2	———	—	7-2005
4	2	17-414	1-210	PC71	17-2104	B20-9L	1-2024	2	1-2023	2	7-2008
5	2	17-416	1-211	PC73	17-2105	B20-9L	1-2024	4	1-2023	4	7-2008

PARTS LIST

END TRUCK

8 WHEEL

300 SERIES



LINE NO.	TRUCK NO.	REF. 1	REF.2		REF.3	REF.4
		PART	PART	PAGE	PART	PART
1	17-312	7-205	1-205	PC-3-5	B16-9L	17-2106
2	17-313	7-205	1-205	PC-3-5	B16-9L	17-2118

END TRUCK
8 WHEEL
300 AND 400 SERIES

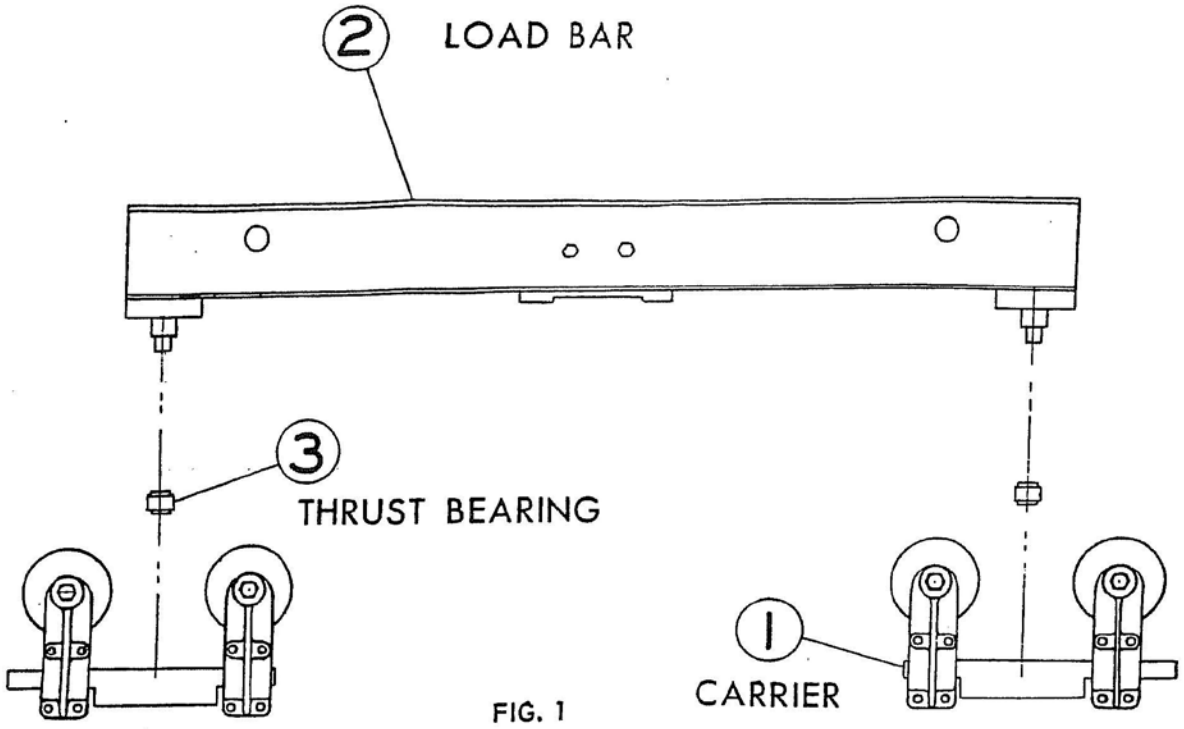


FIG. 1

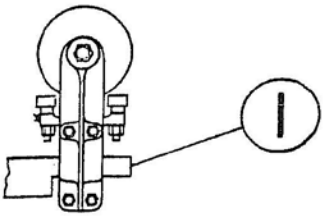


FIG. 2

LINE NO.	FIG. NO.	TRUCK NO.	REF 1		REF 2	REF 3
			PART	PAGE	PART	PART
1	1	17–318	11–325	PD23–L1	17–2106	B16–9L
2	1	17–319	11–325	PD23–L1	17–2107	B16–9L
3	1	17–320	11–326	PD23–L2	17–2108	B24–9L
4	1	17–321	11–326	PD23–L2	17–2109	B24–9L
5	2	17–418	11–425	PD23–L3	17–2106	B16–9L
6	2	17–419	11–425	PD23–L3	17–2107	B16–9L
7	2	17–420	11–426	PD23–L4	17–2108	B24–9L
8	2	17–421	11–426	PD23–L4	17–2109	B24–9L
9	2	17–422	11–427	PD23–L5	17–2110	B24–9L
10	2	17–423	11–427	PD23–L5	17–2111	B24–9L

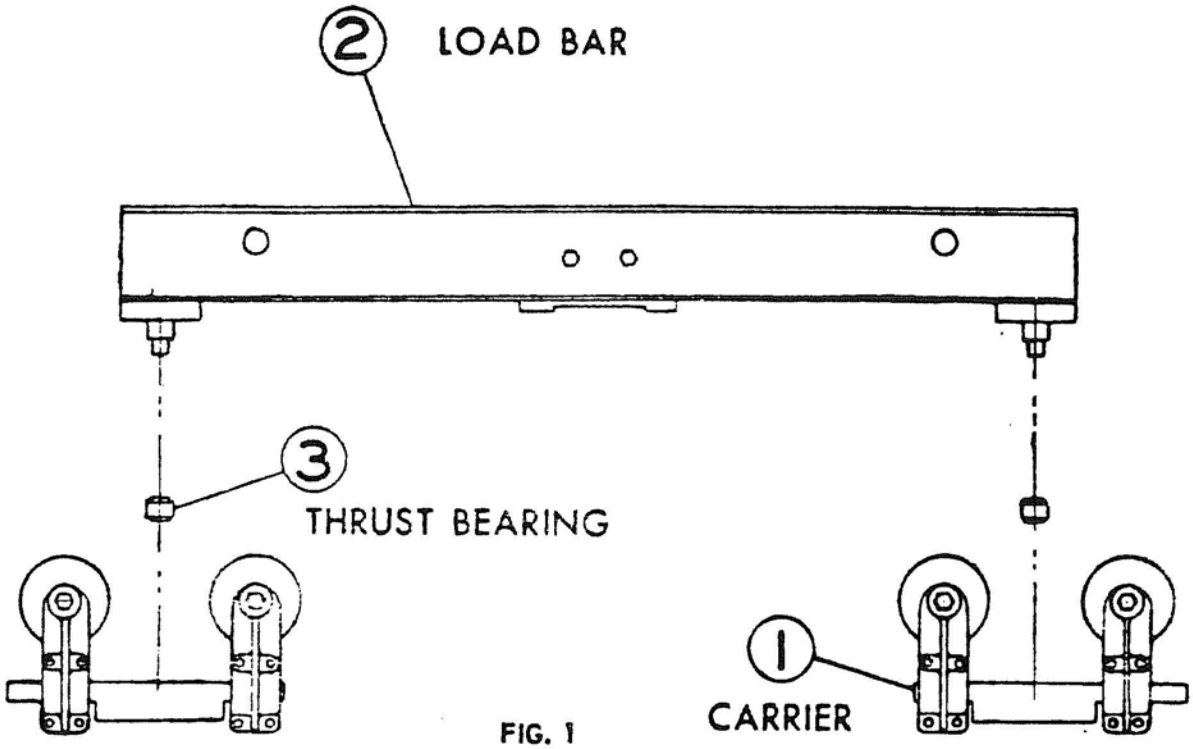


FIG. 1

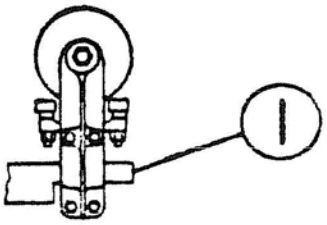


FIG. 2

LINE NO.	FIG. NO.	TRUCK NO.	REF 1		REF 2	REF 3
			PART	PAGE	PART	PART
1	1	17-318	11-325	PD23-L1	17-2106	B16-9L
2	1	17-319	11-325	PD23-L1	17-2115	B16-9L
3	1	17-320	11-326	PD23-L2	17-2108	B24-9L
4	1	17-321	11-326	PD23-L2	17-2109	B24-9L
5	2	17-418	11-425	PD23-L3	17-2106	B16-9L
6	2	17-419	11-425	PD23-L3	17-2107	B16-9L
7	2	17-420	11-426	PD23-L4	17-2108	B24-9L
8	2	17-421	11-426	PD23-L4	17-2109	B24-9L
9	2	17-422	11-427	PD23-L5	17-2110	B24-9L
10	2	17-423	11-427	PD23-L5	17-2111	B24-9L

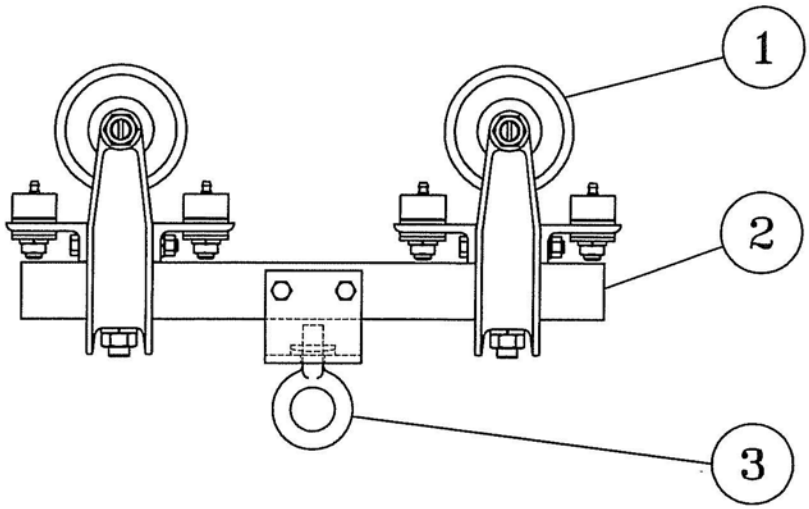


FIG. 1

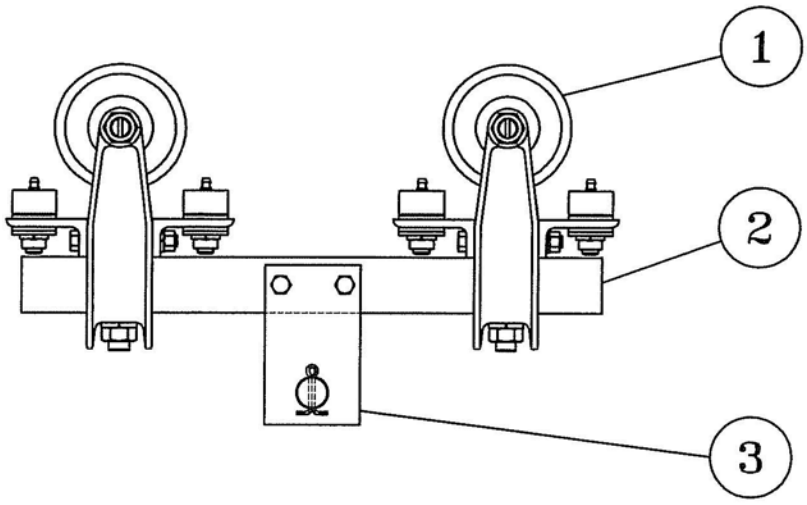
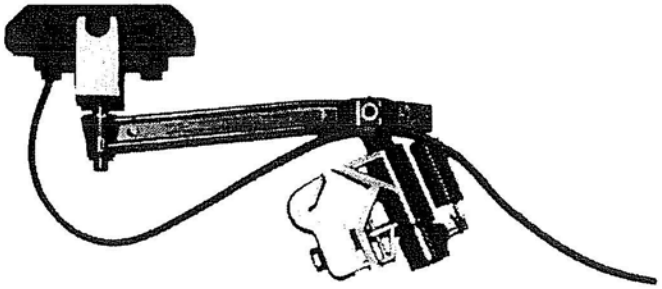


FIG. 2

LINE NO.	FIG. NO.	CARRIER NO.	REF. 1		REF. 2	REF. 3
			PART	PAGE	PART	PART
1	1	110402	01010	PC-55R	070301	0702025
2	2	110403	01010	PC-55R	070301	0702032

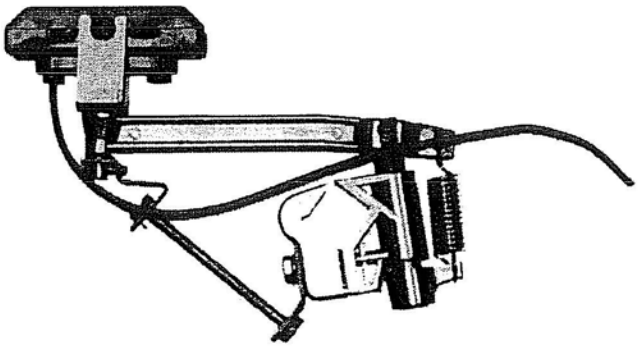
INSUL-8-BAR ELECTRIFICATION

COLLECTORS



560394
Sliding shoe collector used for straight and curve conductor runs. Spring loaded arms maintain contact shoe pressure. The head and contact shoe assembly articulates and swivels to allow for conductor misalignment. Shoes are mounted in non-conducting cases and are easily replaced.
RATING: 30 Amperes

560395
Sliding shoe collectors used for straight conductor runs only. They are similar to No. 560394 but with larger head and contact shoe assemblies.
RATING: 100 Amperes.



560393
Sliding shoe collectors used for discontinuous circuits and for straight and curve conductor runs. They are similar to No. 560394 collectors but have self-centering devices to maintain head alignment when collectors are not tracking on the conductors.
RATING: 30 Amperes

560397
Sliding shoe collectors used for discontinuous circuits and for straight conductor runs only. They are similar to No. 560395 collectors but have self-centering devices to maintain head alignment when collectors are not tracking on the conductors.
RATING: 100 Amperes

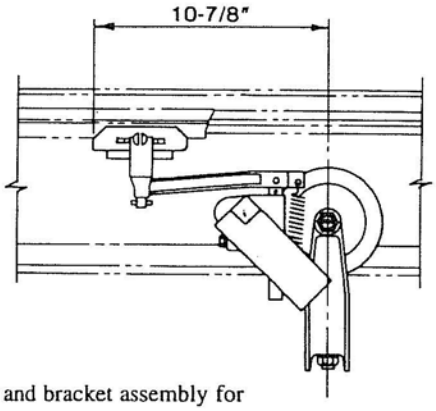
INSUL-8-BAR® ELECTRIFICATION

COLLECTOR BRACKETS

Collectors are generally supported from brackets bolted to the carrier heads of carriers and crane end trucks. The brackets for crane end trucks match the collectors to the conductor elevations and spacings shown on Page ES-11. Brackets for monorail carriers match the collectors to the conductor elevations and spacings shown on Page ES-12. Brackets for carriers operating on cranes match the collectors to the conductor elevations and spacings shown in the Crane Section.

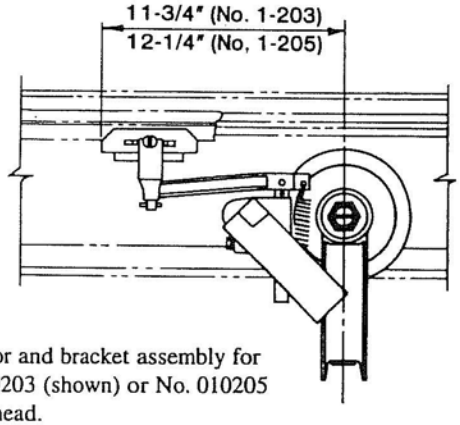
The drawings illustrate the brackets for No. 560394 collectors and for conductor elevations of 6-1/8 inch (4 inch and 5 inch diameter wheels) and 7-3/4 inch (6-1/2 inch diameter wheels). Dimensions are for the No. 560394 collector. Brackets for No. 560395 collectors are identical to those shown; add 1 inch to the dimensions for the No. 560394 collectors.

COLLECTOR & BRACKET



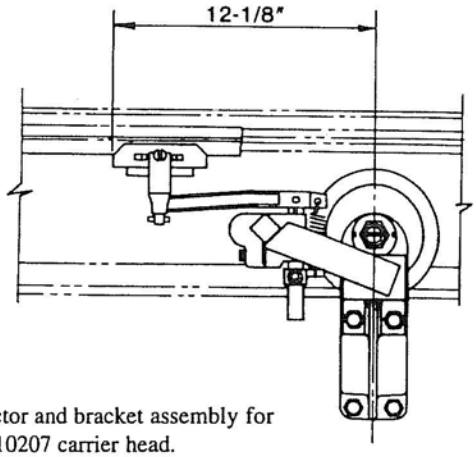
Collector and bracket assembly for No. 010201 carrier head.

COLLECTOR & BRACKET



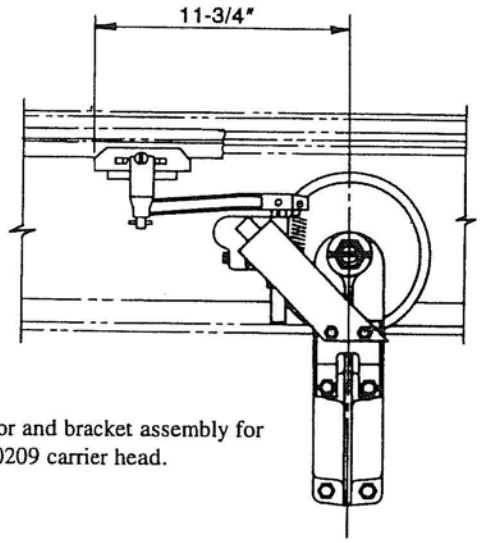
Collector and bracket assembly for No. 010203 (shown) or No. 010205 carrier head.

COLLECTOR & BRACKET



Collector and bracket assembly for No. 010207 carrier head.

COLLECTOR & BRACKET



Collector and bracket assembly for No. 010209 carrier head.

INSUL-8-BAR® ELECTRIFICATION

RUNWAY CONDUCTOR BAR SUPPORTS

Runway 3-bar conductor bar supports are selected from the tables by track size and crane end truck operating on the runway.

Four types of supports are used and are illustrated on Page ES-11. The figure number in the tables indicates the type of support.

Consult factory for special supports: (1) when 2 or more cranes with different end trucks operate on the runway and different types of supports are indicated in the tables or (2) when Figure No. 3 supports are indicated and more than one track size is used on the runway

RUNWAY 3-BAR CONDUCTOR BAR SUPPORTS FOR 4 INCH AND 5 INCH DIAMETER WHEEL END TRUCKS

Runway Item Number	End Truck Item Number					
	170301, 170302, 170303, 170304, 170305, 170306, 170307, 170308, 170309, 170312, 170318, 170408, 170409, 170418		170313, 170319, 170419		180102, 180202, 180106 180206, 180112, 180212	
	Support Item Number	Figure Number Page ES - 11	Support Item Number	Figure Number Page ES - 11	Support Item Number	Figure Number Page ES - 11
34011	550318D	1	*	-	*	-
34016	550317G	1	*	-	550493L	3
34021	550327J	1	*	-	550493K	3
34026	550327K	1	*	-	550493J	3
34031	550327W	1	550493S	3	550493S	3
34037	550327F	1	550493R	3	550493R	3
34041	550327M	1	550493T	3	550493T	3
34046	550327X	1	550493U	3	550493U	3
34051	550341H	2	550493V	3	550493V	3
34056	550341H	2	550493W	3	550493W	3
34061	550341H	2	550496	4	550496	4
34066	550341H	2	550496	4	550496	4

RUNWAY 3-BAR CONDUCTOR BAR SUPPORTS FOR 6-1/2 INCH AND 8 INCH DIAMETER WHEEL END TRUCKS

Runway Item Number	End Truck Item Number					
	170314, 170315, 170320 170414, 170415, 170420		170416, 170417, 170422, 180104 180204, 180205, 180108, 180208 180113, 180213, 180214		170321, 170421, 170423, 180209	
	Support Item Number	Figure Number Page ES - 11	Support Item Number	Figure Number Page ES - 11	Support Item Number	Figure Number Page ES - 11
34037	550333C	1	550493R	3	*	-
34041	550333E	1	550493T	3	550493T	3
34046	550333G	1	550493U	3	550493U	3
34051	550341H	2	550493V	3	550493V	3
34056	550341H	2	550493W	3	550493W	3
34061	550341H	2	550496	4	550496	4
34066	550341H	2	550496	4	550496	4

* End trucks will not operate on this size track due to interference between load bar and conductor.

INSUL-8-BAR® ELECTRIFICATION

RUNWAY CONDUCTOR BAR SUPPORTS

Four types of supports are used and are illustrated in the drawings. Support selection is made from the tables on Page ES-10.

The supports cataloged on Page ES-10 are furnished with No. 550402 snap-in hanger clamps and are satisfactory for indoor applications. Supports with No. 550417 insulated hanger clamps are available for outdoor applications or where ambient conditions warrant additional insulation.

Figure Nos. 1 and 3 supports are furnished with hardware to clamp supports to the top flange of runway tracks. Figure Nos. 2 and 4 supports are furnished with hardware to bolt the supports to the web of runway tracks.

FIGURE NO. 1

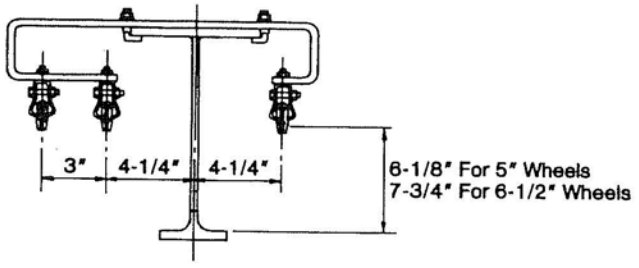


FIGURE NO. 2

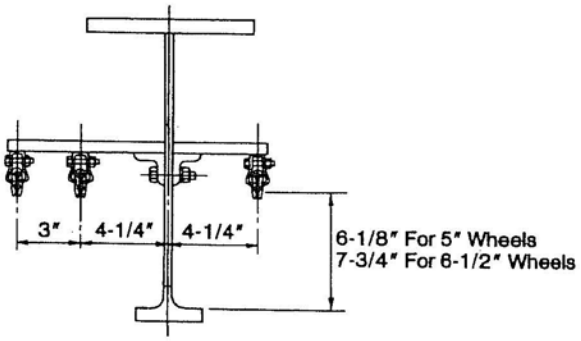


FIGURE NO. 3

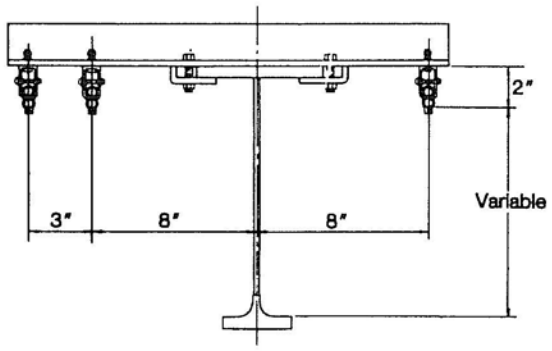
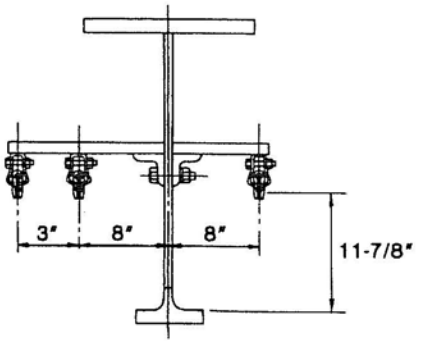


FIGURE NO. 4



INSUL-8-BAR® ELECTRIFICATION

MONORAIL CONDUCTOR BAR SUPPORTS

Supports for Nos. 34011 through 34046 track are furnished with hardware to clamp the support to the track as illustrated in Figure No. 1. Supports for Nos. 34051 through 34066 track are furnished with hardware to bolt the support to the track as illustrated in Figure No. 2.

No. 550420 snap-in hanger clamps are furnished with the supports listed in the table and are satisfactory for indoor applications. Supports with No. 550417 insulated hanger clamps are available for outdoor applications or where ambient conditions warrant additional insulation.

Supports are available for 2-bar, 3-bar and 4-bar systems. The illustrations show the supports for the 3-bar systems. Supports for 2-bar systems are similar but with one bar mounted on each side of the track. Supports for 4-bar systems are similar but with 2 bars mounted on each side of the track. Supports with special conductor spacings are required for 4-bar systems with switches.

FIGURE NO. 1

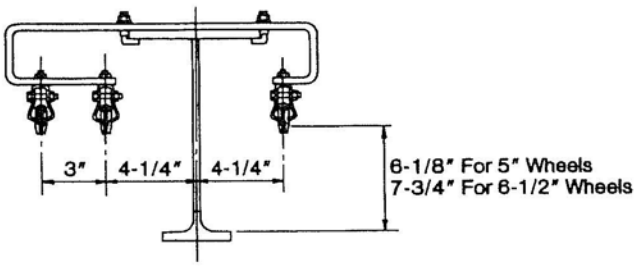
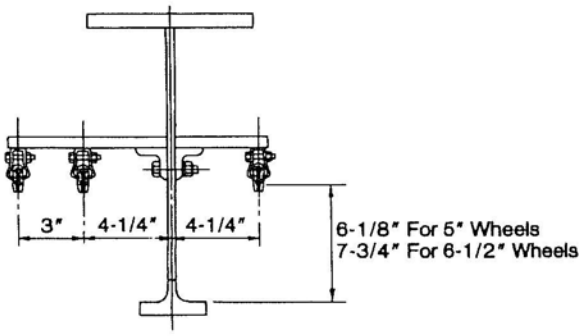


FIGURE NO. 2



Monorail Item Number	Conductor Elevation	Figure Number	Support Item Number		
			2 - Bar	3 - Bar	4 - Bar
34011	6-1/8 in.	1	550318C	550318D	550318E
34016	6-1/8 in.	1	550317F	550317G	550317H
34021	6-1/8 in.	1	550321H	550327J	550329J
34026	6-1/8 in.	1	550321J	550327K	550329K
34031	6-1/8 in.	1	550321W	550327W	550329W
34037	6-1/8 in.	1	550321F	550327F	550329F
	7-3/4 in.	1	550330C	550333C	550334C
34041	6-1/8 in.	1	550321L	550327M	550329M
	7-3/4 in.	1	550330E	550333E	550334E
34046	6-1/8 in.	1	550321X	550327X	550329X
	7-3/4 in.	1	550330G	550333G	550334G
34051 Through 34066	6-1/8 in. or 7-3/4 in.	2	550341G	550341H	550341J

INSUL-8-BAR ELECTRIFICATION

SWITCH ELECTRIFICATION

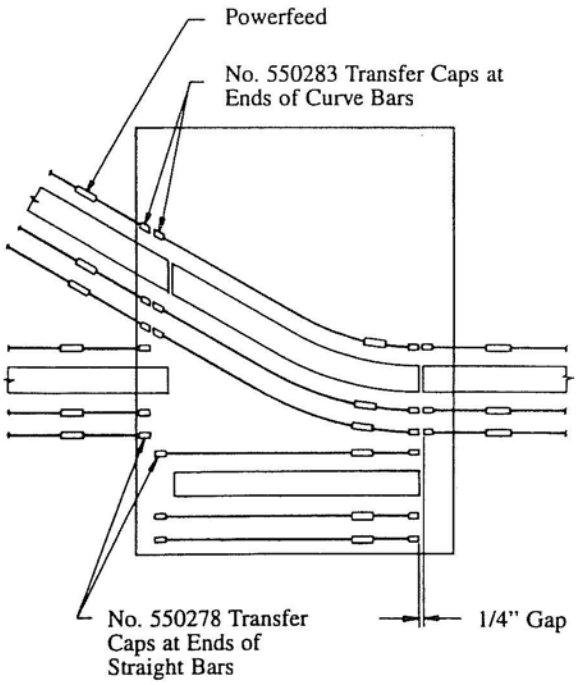
Type 3, 4 and 5 switches can be electrified with 2, 3 or 4 power conductors of Insul-8-Bar electrification. Two conductors are used for direct current and for 3 phase alternating current grounded rail systems.Three conductors are used for 3 phase alternating current systems. Four conductors are used for 3 phase alternating current systems where a separate ground conductor is desired.

Factory assembled wiring harnesses are furnished with electrified switches. Conductors, transfer caps and powerfeeds with flexible jumpers to the harness are also factory assembled on the straight and curve tracks of the switch. Five foot lengths of conductors, transfer caps and powerfeeds are furnished for field installation on tracks incoming to the switch. These conductors are used to jumper the power through the wiring harness to the conductors on the switch and to the conductors on the other incoming tracks. Conductors for incoming curve tracks are formed to the curve radius in the field.

The conductors on 3-bar systems are not symmetrical. Where more than one switch is in a system, right and left hand conductor arrangements may be required. These arrangements are illustrated in the drawings. When ordering 3-bar switches, specify the required conductor arrangement.

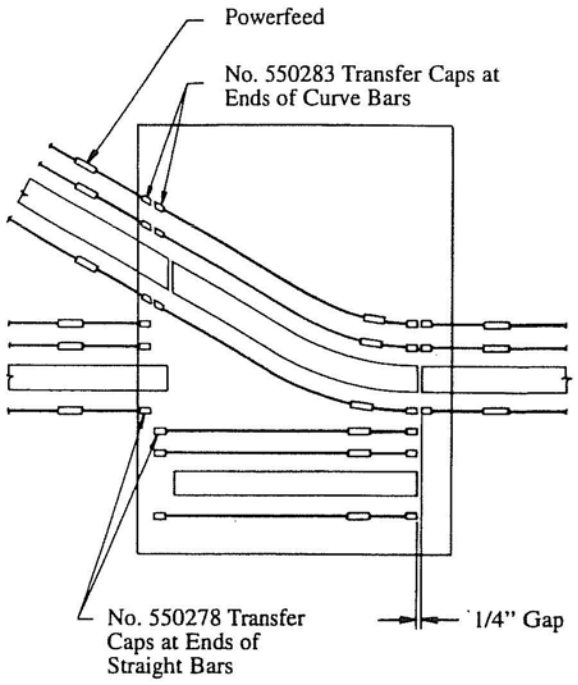
Type 3 and 4 switches have the bottom of the conductors at 6-1/8 inch elevation above the tread. Type 5 switches have the bottom of the conductors at 6-1/8 inch elevation for 4 inch and 5 inch wheel carriers and 7-3/4 inch elevations for 6-1/2 inch wheel carriers. Conductor spacing for 2-bar and 3-bar systems is shown on Page ES-11; 4-bar systems require special spacing.

LEFT HAND



Left hand conductor arrangement for 3-bar switch.

RIGHT HAND



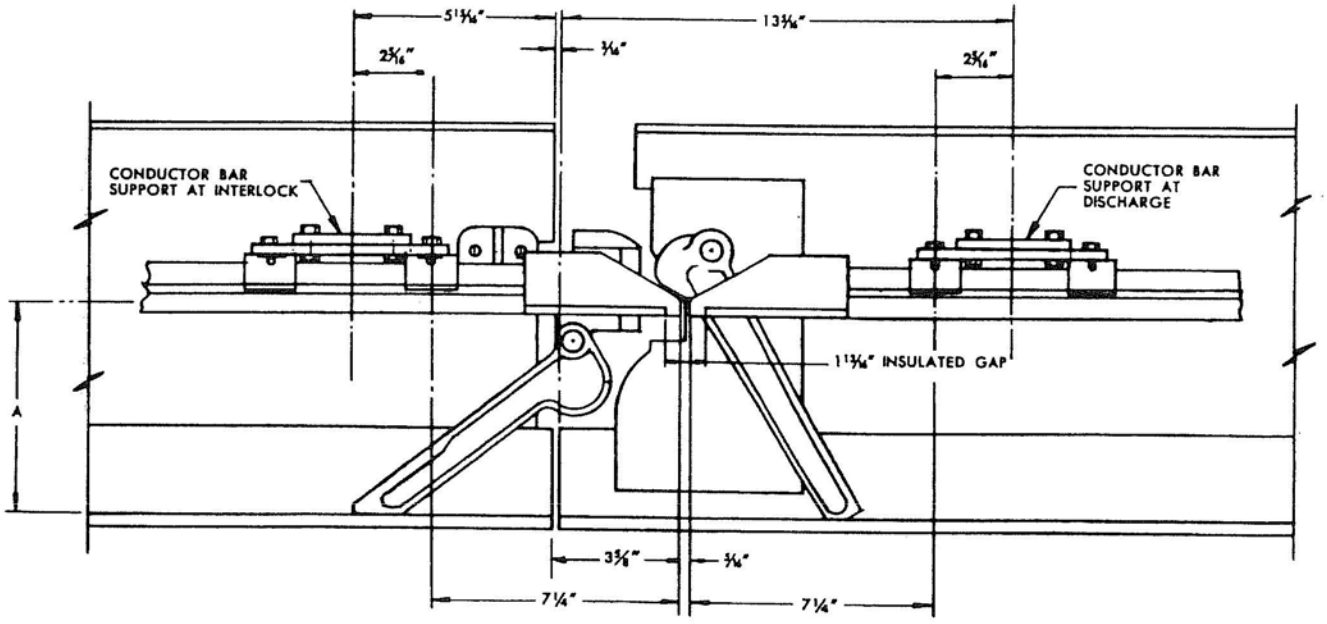
Right hand conductor arrangement for 3-bar switch.

INSUL-8-BAR ELECTRIFICATION

INTERLOCK AND DISCHARGE
POINT ELECTRIFICATION

The drawing illustrates the arrangement of Insul-8-Bar electrification at the interlock and discharge point gap. No. 550271 conductors with No. 550281 transfer insulators are installed on each side of the gap to provide insulation against cross-phasing. Transfer insulators at the interlock end project beyond the end of the track and into the discharge point making the gap 5/16 inch wide.

Supports with double hanger clamps are used at the gap to maintain conductor alignment and bolt to the web of the track. Supports listed in the table are furnished with No. 550402 snap-in hanger clamps and are satisfactory for indoor applications. Supports with No. 550417 insulated hanger clamps are available for outdoor applications or where conditions warrant additional insulation.

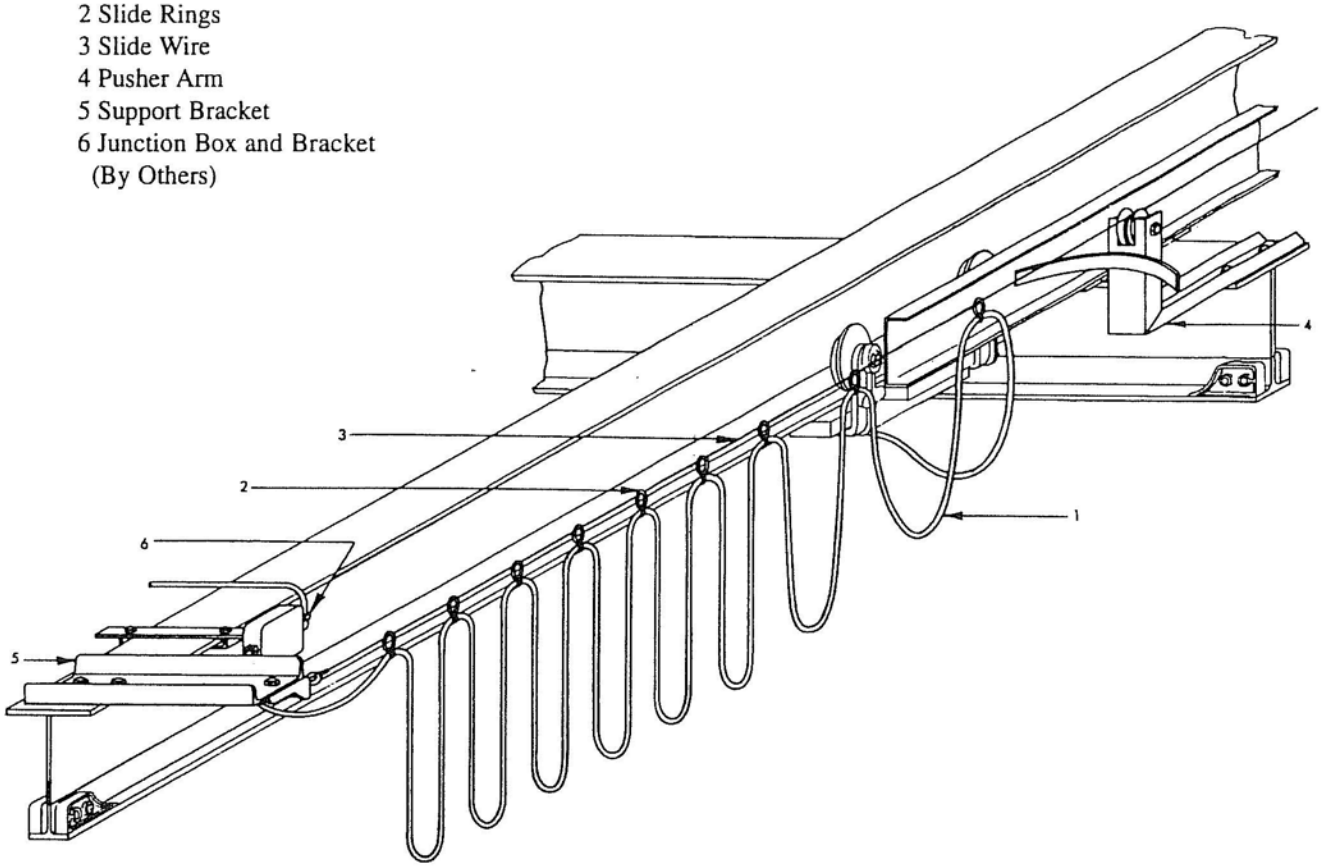


A= 6-1/8" For 4" and 5" wheels
7-3/4" For 6-1/2" wheels
9-1/2" For 8" wheels

Number of Conductors	Conductor Bar Support Item Number	
	Interlock	Discharge
2	550315C	550311C
3	550315D	550311D
4	550315E	550311E

TAGLINE ELECTRIFICATION

1 Flexible Cable
2 Slide Rings
3 Slide Wire
4 Pusher Arm
5 Support Bracket
6 Junction Box and Bracket
(By Others)



Tagline electrification uses flexible cable for the conductors. It is well suited for applications in hazardous locations or where there are corrosive fumes or high humidity in the atmosphere. Tagline is not generally used on systems with curves, switches or interlocks.

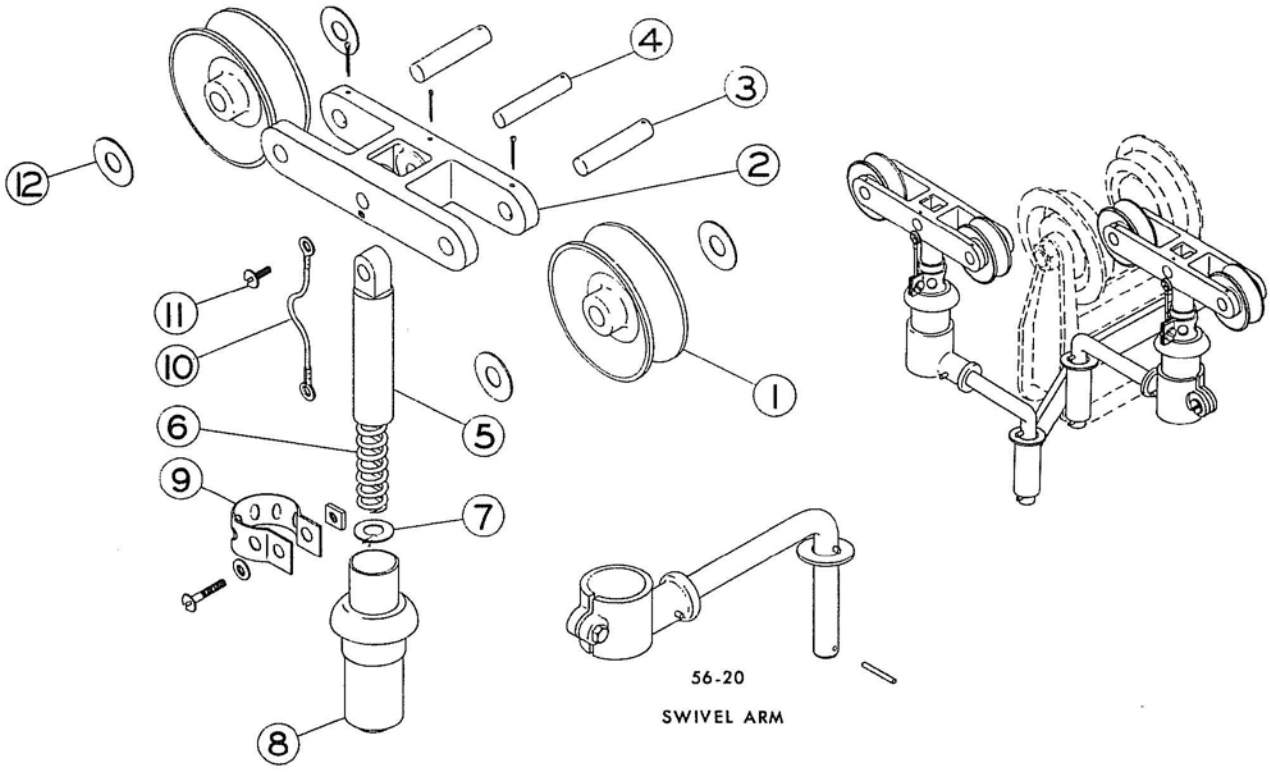
Many types of tagline are available. Round or flat cables or separate wires in a neoprene jacket can be used for the conductors. The conductor cable can be supported by slide rings from a wire or by trolleys from a specially rolled track.

The runway tagline system in the illustration consists of 4-conductor round cable suspended by slide rings from a wire. The slide wire is supported at each end from brackets bolted to the top flange of the runway track. Eyebolts in the brackets provide adjustment for wire tension. A pusher arm for the crane is recommended to avoid having the crane end truck interfere with the cable or slide wire. Tagline using the slide wire suspension is suitable for use on runways or straight monorails up to 80 feet in length.

Tagline using the slide wire suspension can also be used on cranes with spans to 40'-0". Cranes with spans greater than 40'-0" require a more rigid support for the conductor cables.

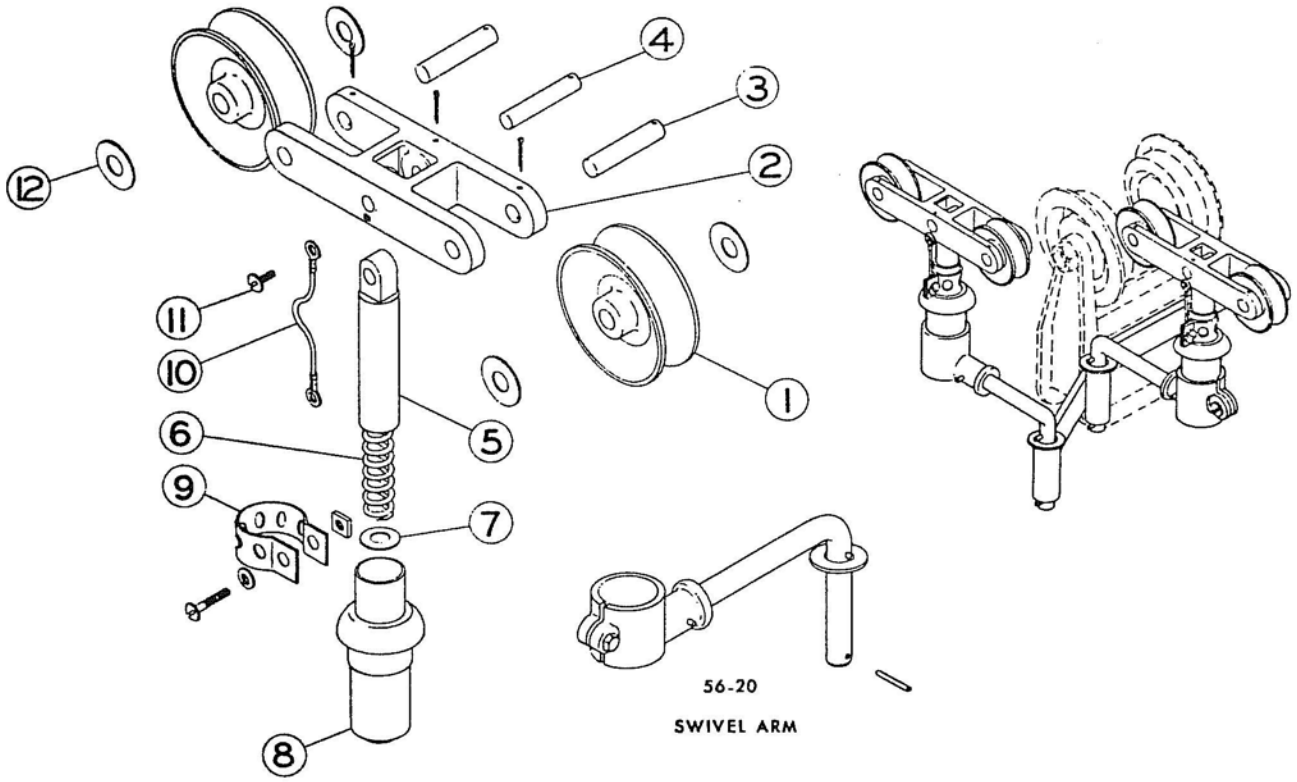
Consult factory for information on tagline sustems using flat cables or separate wires in a neoprene jacket or where a more rigid support is required for the conductor cables.

NO. 56-5 COLLECTOR
FIG. 8 BAR



REF. NO.	PART NO.	DESCRIPTION	QTY.
1	56-1015	Wheel	2
2	56-1017	Wheel Clevis	1
3	56-1019	Wheel Pin with Cotter	2
4	56-1020	Clevis Pin with Cotter	1
5	56-1018	Clevis Support	1
6	56-1021	Spring	1
7		Washer 5/16''	1
8	56-1016	Outer Tube	1
9	56-5-12	Clamp	1
10	56-1010	Pigtail Shunt	1
11		10-24 x 3/8 Binder Head Screw	1
12	56-5-8	½'' Special Washer	4

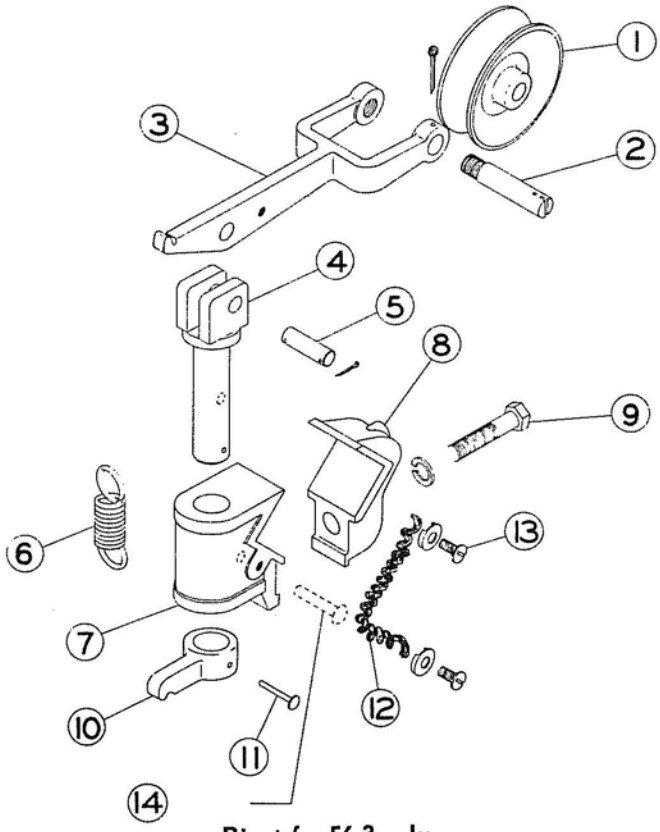
NO. 56-6 COLLECTOR
FIG. 8 BAR



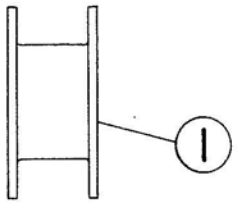
56-20
SWIVEL ARM

REF. NO.	PART NO.	DESCRIPTION	QTY.
1	56-1015	Wheel	2
2	56-1017	Wheel Clevis	1
3	56-1019	Wheel Pin with Cotter	2
4	56-1020	Clevis Pin with Cotter	1
5	56-1018	Clevis Support	1
6	56-1021	Spring	1
7		Washer 5/16''	1
8	56-1016	Outer Tube	1
9	56-5-12	Clamp	1
10	56-1010	Pigtail Shunt	2
11		10-24 x 3/8 Binder Head Screw	1
12	56-5-8	½'' Special Washer	4

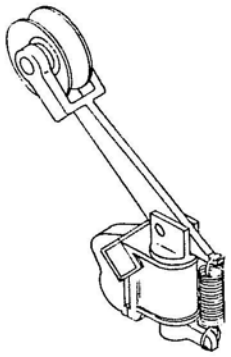
COLLECTORS NO. 56-3 AND 56-4



Rivet for 56-3 only.



56-1009 WITH 56-3 ASSEMBLY



REF. NO.	PART NO.	DESCRIPTION	QTY.
* 1	56-1008	Wheel	1
2	56-1013	Wheel Pin w/Cotter	1
3	56-1003	Harp	1
4	56-1004	Clevis	1
5	56-1014	Pin with Cotter	1
6	56-1011	Spring	1
7	56-1005	Clamp – Front	1
8	56-1006	Clamp – Rear	1
9		5/16 - 18 x 1½ Cap Screw and Lock Washer	1
10	56-1007	Collar	1
11		1/8 x 1¼ Oval Head Rivet	1
12	56-1010	Pigtail Shunt w-2 Cup Washers	1
13		10 - 24 x 3/8 Round Head Machine Screw	2
* 14		See Note	

* Collector - Part No. 56-3 – All parts same as 56-4 except Ref. No. 1 is 56-1009 Wheel and Ref. No. 14 is 3/16 x 1 1/8 Round Head Rivet.

GENERAL

The Tractor Assembly consists of a drive gear case assembly supported by the wheel carrier on the Trambeam track.

The wheel carrier rides the Trambeam track on four flangeless steel wheels and is guided along the Trambeam track by four side guide rollers virtually eliminating any binding between the wheel carrier and the Trambeam track.

The drive gearcase assembly is suspended from the wheel carrier by two spring mounted adjusting bolts. The drive gear case assembly is also connected to the wheel carrier by two parallel links. This linkage transmits the motor torque reaction directly to the wheel carrier instead of adding to or subtracting from the drive wheel pressure. The drive gear case assembly consists of a flange mounted motor which drives a polyurethane tired drive wheel through a totally enclosed gear reduction. A steel or rubber tired wheel can be furnished on special order. The drive wheel is keyed to the drive shaft which is supported by sealed ball bearings.

INSTALLATION

Carefully inspect the tractor assembly for damage. Completely install the assembled unit on the runway and attach the tow-bar to the end truck or carrier loadbar tow-link.

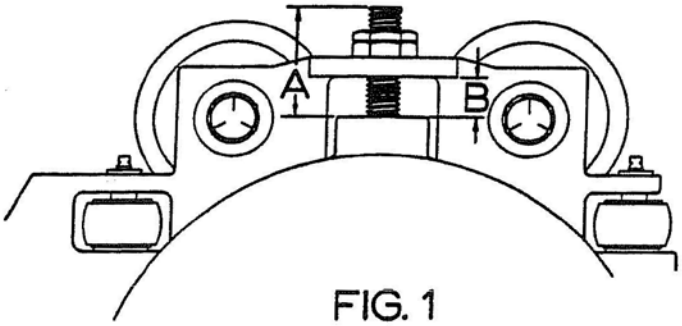


FIG. 1

Adjustment for proper drive wheel pressure is accomplished by tightening the adjusting bolt nuts until the distance from the top of the spring housing to the top of the adjusting bolt is 2-7/8 inches. (Distance "A").

This spring adjustment is equivalent to approximately 1,500 pounds pressure on the plastic wheel or 3,000 pounds pressure on a steel wheel. After bringing the adjusting bolt extension to dimension "A", the unit is balanced out for even tire pressure by equalizing distance "B" on each side of the tractor. This is done by loosening up one adjusting nut and tightening the other. After all adjustments have been completed, tighten up lock nuts to maintain proper adjustment during operation.

Connect motor leads to line of proper voltage as stamped on motor name plate; check voltage, frequency, phase, etc. Connection diagram will be found in terminal box or on motor name plate. Three lead polyphase motors and two lead single phase motors do not require a connection diagram.

INSTALLATION (Continued)

Fluid couplings when used on motors are filled with oil before shipment. Fill tractor gearcase with oil as specified under Lubrication before operating.

MAINTENANCE

Occasional readjustment of tractor adjustment springs should be made to compensate for drive wheel wear and to maintain the proper pressure between the Trambeam track and the drive wheel. The amount of wheel wear can be determined by finding the average "A" dimension of the adjusting bolts. This average extension subtracted from the recommended "A" dimension of 2-7/8" will give the amount of wheel wear on a radius, or twice this figure will give the loss in diameter since the previous adjustment. For all readjustments the extension of the adjusting bolt always reverts back to the original recommended figure, and the balancing procedur is the same as outlined in the installation instructions. Do not adjust the springs to more than the recommended amount, as this figure is ample to attain proper results.

When the tire wear reduces the diameter of the wheel by 1 inch or more, replacement of the wheels is essential.

REPLACEMENT of DRIVE WHEEL

Loosen nuts on the adjusting bolts until drive wheel is no longer contacting underside of rail. Then completely remove the nuts from the adjusting bolts on the outboard bearing side of the drive wheel which will allow the bolt to be removed and permits the removal of the Bearing Housing 2401084. Remove the four 1/2 inch screws which secure the Bearing Housing to the Gear Case and by the use of two of these cap screws screwed into the tapped holes on the horizontal center line of the Bearing Housing; the outboard assembly can be forced free and removed. The ball bearing is a press fit on the shaft and must be removed separately after the Bearing Housing is removed. With the outboard Bearing Housing removed the drive wheel will drop into a position, where, with the aid of a wheel puller, it can be removed and replaced with a new one. Re-assembly is made in the reverse order. Care should be taken to see that the locking plates on the Bearing Housing screws are in place and properly locked.

LUBRICATION

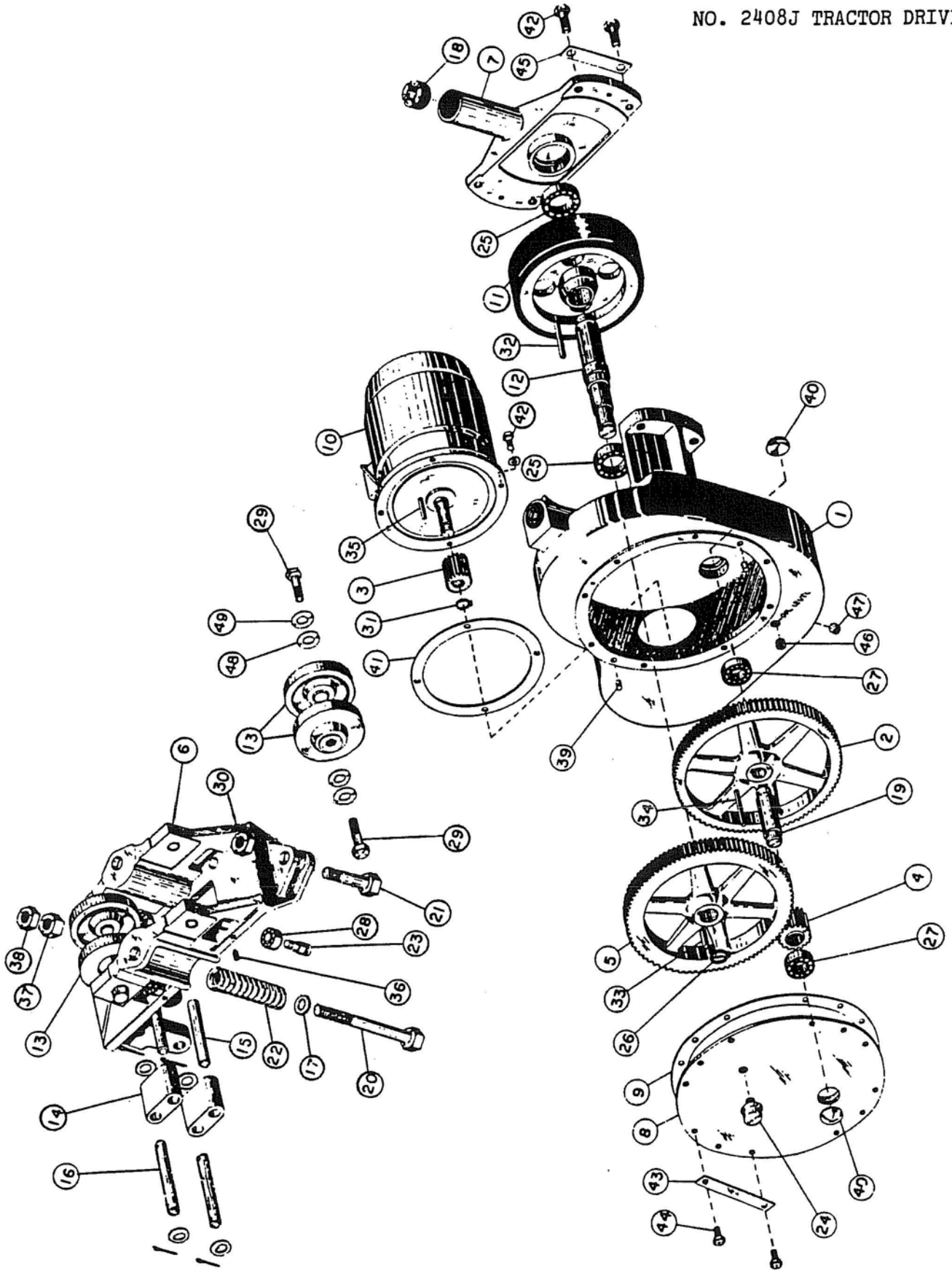
The bearings carrying the drive wheel are sealed for life type bearings and require no lubrication. Bearings in the Gear Case are lubricated by the oil in the Gear Case and need no further attention. Side guide rollers are lubricated at the factory prior to shipment with a lime base medium consistency grease serviceable at 10° F. below zero to 330° F. (Alemite No. 38 or equal). Grease fittings are provided on side guide rollers and it is recommended that the bearings be lubricated periodically. **CAUTION - DO NOT OVERLUBRICATE**

The Gear Case should be filled with oil up to the oil level plug only, (SAE 40) and checked periodically.

Fluid couplings when used are serviced with a straight No. 10 mineral or automobile fluid drive oil when replacement or addition of oil becomes necessary.

PARTS LIST FOR TRACTOR 2408J
(WITH POLYURETHANE TIRED WHEEL)

REF. NO.	PART NO.	DESCRIPTION	REQ'D
1	2401080	GEAR CASE	1
2	2401087	TRANSFER GEAR	1
3	2401090	MOTOR PINION	1
4	2401089	TRANSFER PINION	1
5	2401088	DRIVEN GEAR	1
6	2401172	WHEEL FRAME	1
7	2401084	BEARING HOUSING	1
8	2401082	BEARING HOUSING	1
9	2401085	GASKET	1
10		MOTOR	1
11	2801101	10" DRIVE WHEEL	1
12	2401091	DRIVEN SHAFT	1
13	0102051	FLANGELESS WHEEL ASSEMBLY (Less LW,Bolt & Spacer)	4
14	2401100	CONNECTING LINK	2
15	2401103	PIVOT SHAFT	2
16	2401099D	PIVOT PIN	2
17	2401101	WASHER	2
18	2401097	SPRING STOP	2
19	2401092	INTERMEDIATE SHAFT	1
20	2401098D	ADJUSTABLE BOLT	2
21	682100325	1 x 3-1/4 TURN BOLT	1
22	2401094	SPRING	2
23	2401157	GUIDE ROLLER SHAFT	4
24	480017	BREATHER	1
25	050002	BEARING	2
26	480018	SNAP RING	1
27	050003	BEARING	2
28	050302	SIDE GUIDE ROLLER	4
29	681750250	3/4-16 x 2-1/2 HT CAPSCREW	4
30	480065	1"-8 FLEXLOC NUT	1
31	480019	SNAP RING	1
32	480116	3/8 x 3/8 x 3 KEY	1
33	480117	3/8 x 3/8 x 1-3/8 KEY	1
34	480118	1/4 x 1/4 x 2-15/16 KEY	1
35	480119	1/4 x 1/4 x 1-3/4 KEY	1
36	686375750	SET SCREW	4
37	480115	7/8 -14 HEX NUT	2
38	480098	7/8 JAM NUT	2
39	480020	DOWEL	2
40	480021	EXPANSION PLUG	2
41	2401086	MOTOR GASKET	1
42	681500125	1/2 x 1-1/4 CAPSCREW	8
43	2401102D	LOCKING PLATE	4
44	680375075	3/8 -16 x 3/4 CAPSCREW	8
45	2401102C	LOCKING PLATE	2
46	480134	3/8 PIPE PLUG	1
47	480121	1/2 PIPE PLUG	1
48	0102041	SPACER	4
49	480094	3/4 INT. SHAKEPROOF LOCKWASHER	4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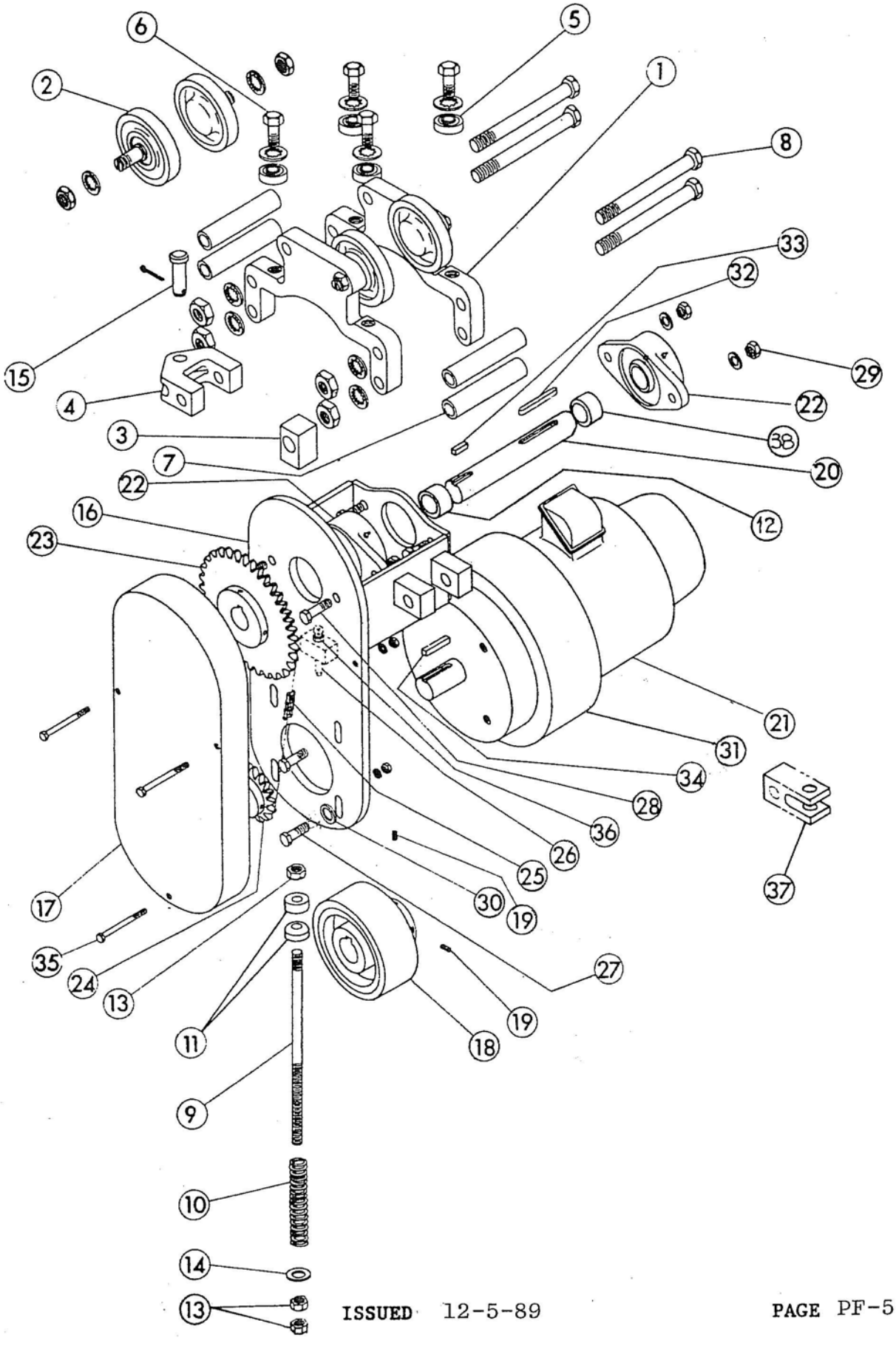
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PARTS LIST
2409 TRACTOR
WITH 56C FRAME MOTOR

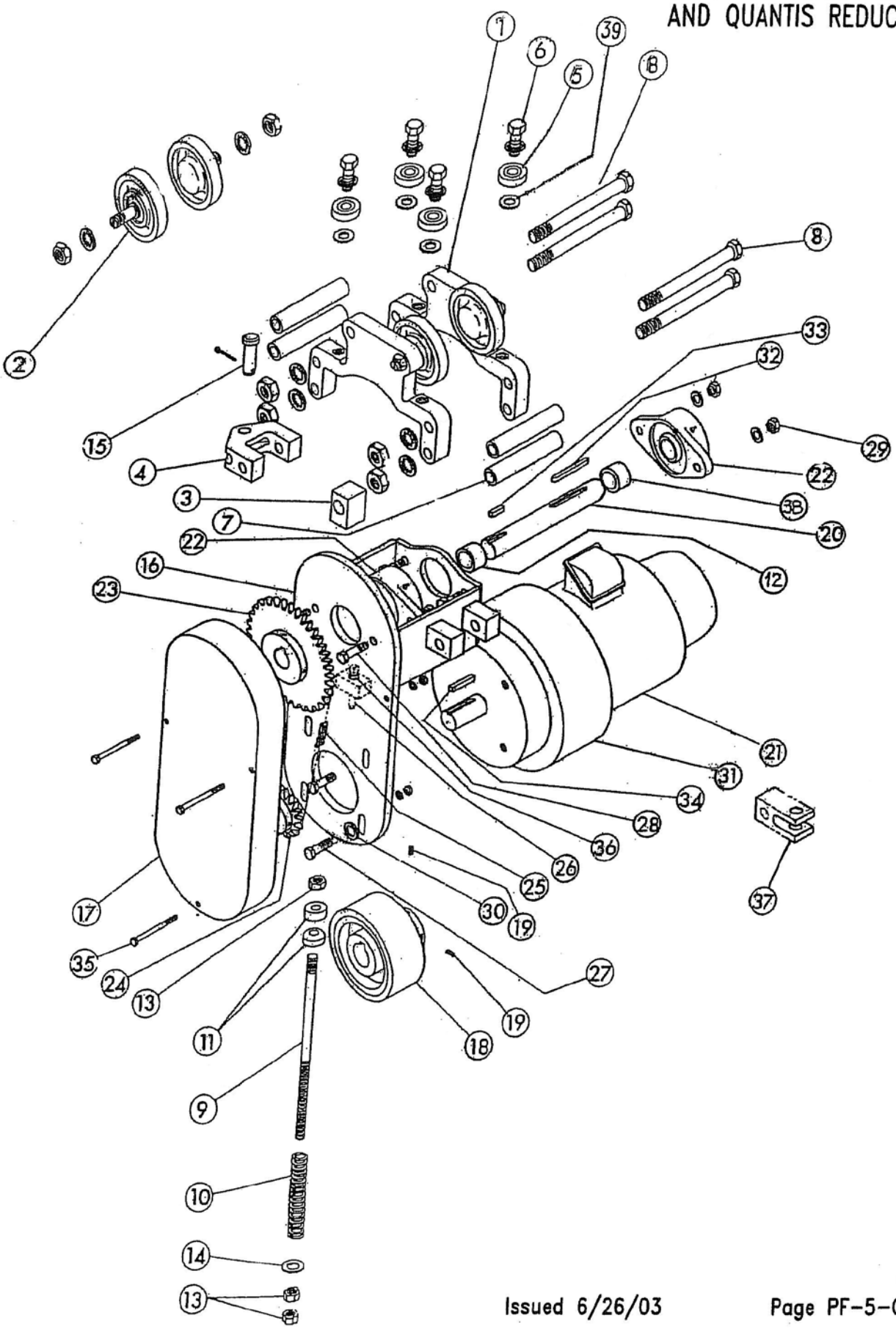
REF. NO.	PART NO. 2409G	PART NO. 2409H	DESCRIPTION	QTY REQ'D
1	2401110	2401110	CARRIER SIDE PLATE	2
2	010270	010270	4" WHEEL ASSEMBLY-NUT-LOCKWASHER	4
3	2401111	2401111	ROD EYE	1
4	2401112	2401112	TOW LUG	1
5	050009	050009	BEARING KP-10-MRC	4
6	682625150	682625150	TURN BOLT 5/8-11 x 1-1/2-Lockwasher	4
7	2401114	2401114	SPACER	4
8	680625750	680625750	CAPSCREW 5/8 x 7-1/2 W/NUT & LOCKWASHER	4
9	2401115	2401115	STUD	1
10	480004	480004	SPRING NO. 9-2432-21 DANLY	1
11	2401159	2401159	SPHERICAL WASHER SET	1
12	2401118C	2401118C	SPACER	1
13	480102	480102	3/4-10 JAM NUT	3
14	480093	480093	3/4 SAE WASHER	1
15	2401123	2401123	YOKE PIN	1
16	2401161C	2401161D	TRACTOR DRIVE FRAME	1
17	2401116	2401116	CHAIN COVER	1
18	2401143	2401143	DRIVE WHEEL	1
19	686375500	686375500	3/8-16 x 1/2 Hol. Hd SET SCREW	2
20	2401145	2401145	DRIVE SHAFT	1
21			MOTOR (SEE MOTOR SHEET)	1
22	050402	050402	BEARING SFT-22 S.M.	2
23			SPROCKET (SEE TABLE) WITH SET SCREWS	1
24	2801106E	2801106E	SPROCKET WITH SET SCREWS	1
25			CHAIN RC-50	1
26	686500500	686500500	1/2-13 x 5" HEX HD TAP BOLT	1
27	680375175	680375175	CAPSCREW 3/8-16 x 1-3/4" W/NUT & LW	4
28	680500200	680500200	CAPSCREW 1/2-13 x 2" W/NUT & LW	2
29	680500175	680500175	CAPSCREW 1/2-13 x 1-3/4" W/NUT & LW	2
30	490140	490140	3/8" CUT WASHER	4
31	6400600	6400600	MASTER XL REDUCER	1
32	480128	480128	KEY 3/8 x 3/8 x 3-1/8 STR ROUND END	1
33	480132	480132	KEY 3/8 x 3/8 x 1-1/8 STR	1
34	480119	480119	KEY 1/4 x 1/4 x 1-3/4 STR	1
35	680250300	680250300	CAPSCREW 1/4-20 x 3 W/NUT & LW	3
36	480106	480106	1/2-13 HEX NUT	1
37	2401113	2401113	TOW LUG (WHEN FURNISHED)	1
38	2401118M	2401118M	SPACER	1

	REF 23 - PART NO. - DRIVEN SPROCKET				
TRACTOR SPEED F.P.M.	100	125	150	175	200
SPROCKET PART NO.	2801109Y	2801109Z	2801109BA	2801109BB	2801109BC

PARTS LIST

2409 TRACTOR

WITH 56C FRAME MOTOR
AND QUANTIS REDUCER



PARTS LIST

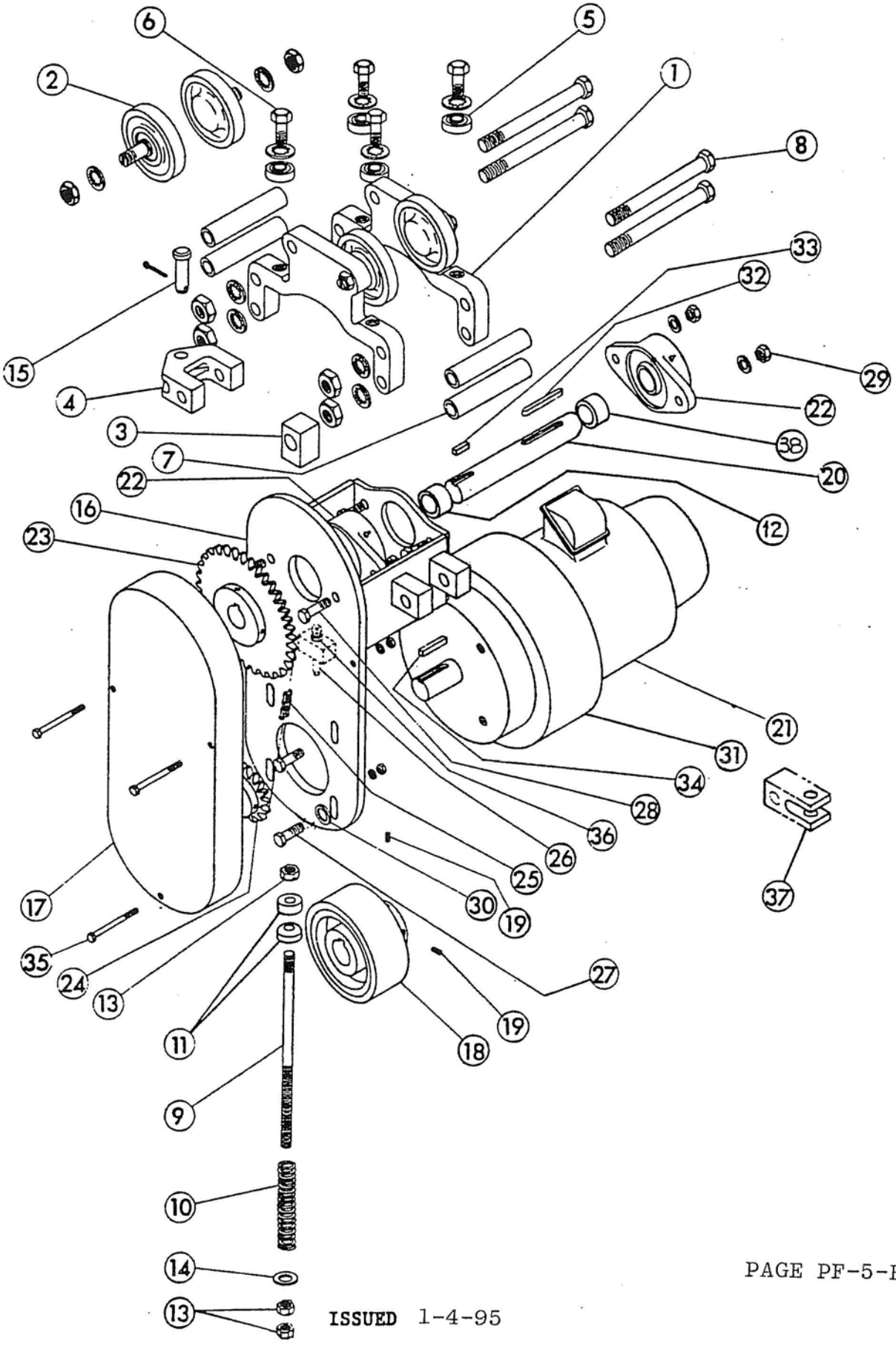
2409 TRACTOR

WITH 56C FRAME MOTOR
AND QUANTIS REDUCER

REF. NO.	PART NO. 2409L	2409M	DESCRIPTION	QTY.
1	2401110	2401110	CARRIER SIDE PLATE	2
2	010270	010270	4" WHEEL ASSY.-NUT-LOCKWASHER	4
3	2401111	2401111	ROD EYE	1
4	2401112	2401112	TOW LUG	1
5	050001	050001	BEARING 6303SKF	4
6	2401175	2401175	GUIDE ROLLER BOLT W/ LOCKWASHER	4
7	2401114	2401114	SPACER	4
8	680625750	680625750	CAPSCREW 5/8 X 7 1/2 W/NUT&LOCKWASHER	4
9	2401115	2401115	STUD	1
10	480004	480004	SPRING NO. 9-2432-21 DANLY	1
11	2401159	2401159	SPHERICAL WASHER SET	1
12	2401118C	2401118C	SPACER	1
13	480102	480102	3/4-10 JAM NUT	3
14	480093	480093	3/4 SAE WASHER	1
15	2401123	2401123	YOKE PIN	1
16	2401161C	2401161D	TRACTOR DRIVE FRAME	1
17	2401116	2401116	CHAIN COVER	1
18	2401143	2401143	DRIVE WHEEL	1
19	686375500	686375500	3/8-16 X 1/2 HOL. HD. SET SCREW	2
20	2401145	2401145	DRIVE SHAFT	1
21			MOTOR (SEE MOTOR SHEET)	1
22	050402	050402	BEARING SFT-22 S.M.	2
23			SPROCKET (SEE TABLE) WITH SET SCREWS	1
24	2801106H	2801106H	SPROCKET WITH SET SCREWS	1
25			CHAIN RC50 (SEE TABLE)	1
26	686500450	686500450	1/2-13 X 4 1/2 HEX HD. TAP BOLT	1
27	680375175	680375175	CAPSCREW 3/8-16 X 1 3/4" W/NUT & LW	4
28	680500200	680500200	CAPSCREW 1/2-13 X 2" W/NUT & LW	2
29	680500175	680500175	CAPSCREW 1/2-13 X 1 3/4" W/NUT & LW	2
30	490140	490140	3/8" CUT WASHER	4
31	6400602F	6400602F	QUANTIS REDUCER	1
32	480128	480128	KEY 3/8 X 3/8 X 3 1/8" STR. RND. ENDS	1
33	480132	480132	KEY 3/8 X 3/8 X 1 1/8" STR.	1
34	480119	480119	KEY 1/4 X 1/4 X 1 3/4" STR.	1
35	680250300	680250300	CAPSCREW 1/4-20 X 3 W/NUT & LW	3
36	480106	480106	1/2-13 HEX NUT	1
37	2401113	2401113	TOW LUG (WHEN FURNISHED)	1
38	2401118M	2401118M	SPACER	1
39	480099	480099	5/8 SAE WASHER	4

	REF. 23 - PART NO. - DRIVEN SPROCKET				
DRIVE SPEED FPM	100	125	150	175	200
SPROCKET PART NO.	2801109Z	2801109BA	2801109BB	2801109BC	2801109DS
REF. 25 RC50 CHAIN	480070	480071	480071	480071	480071

PARTS LIST
2409 TRACTOR
WITH 56C FRAME MOTOR
EXPLOSION PROOF



ISSUED 1-4-95

PARTS LIST
2409 TRACTOR
WITH 56C FRAME MOTOR

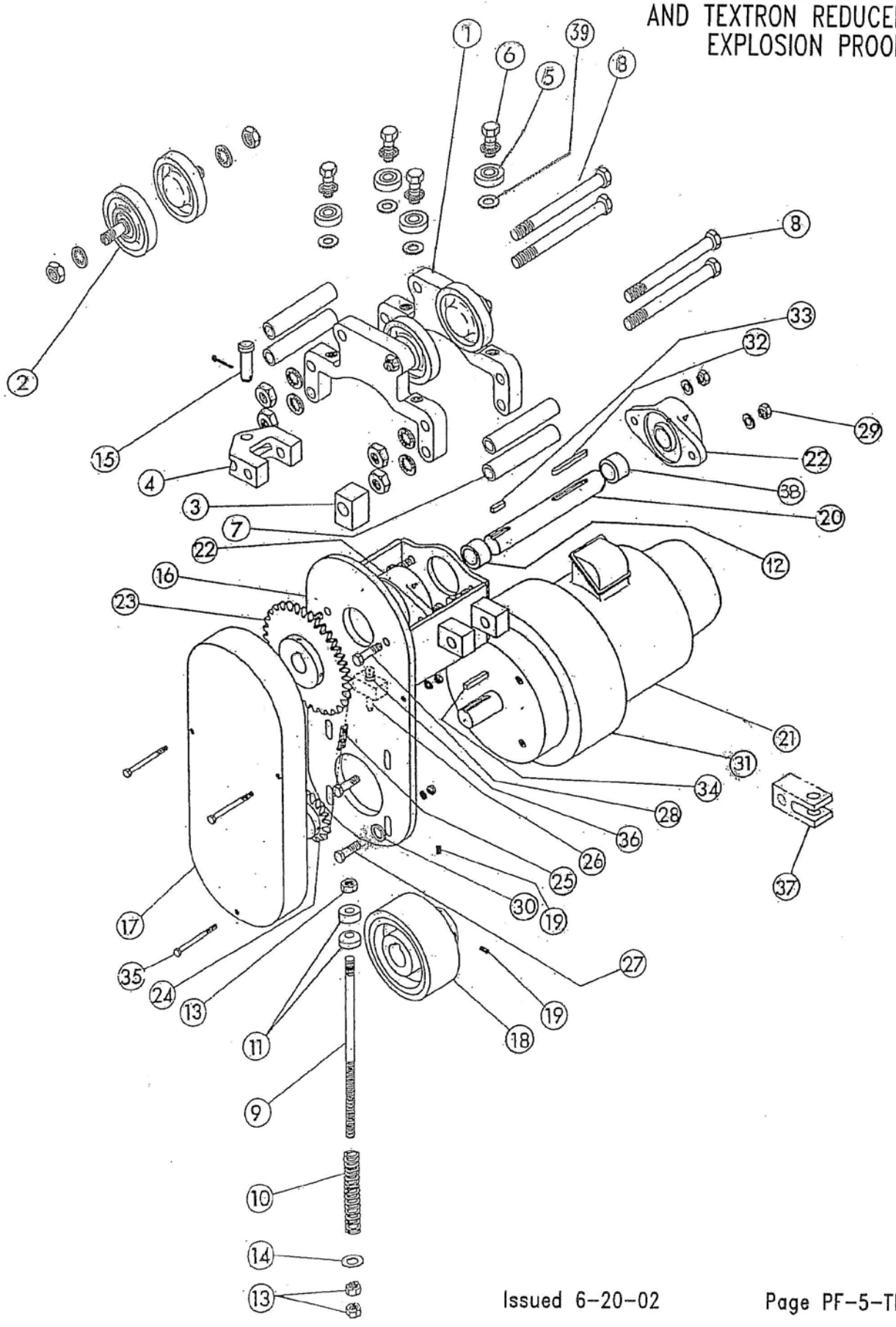
REF. NO.	PART NO. 2409G	PART NO. 2409H	DESCRIPTION	QTY REQ'D
1	2401110	2401110	CARRIER SIDE PLATE	2
2	SPECIAL	SPECIAL	4" BRONZE WHEEL ASSEMBLY W/NUTS & LW	4
3	2401111	2401111	ROD EYE	1
4	2401112	2401112	TOW LUG	1
5	SPECIAL	SPECIAL	NYLON ROLLER GUIDE	4
6	682625150	682625150	TURN BOLT 5/8-11 x 1-1/2-Lockwasher	4
7	2401114	2401114	SPACER	4
8	680625750	680625750	CAPSCREW 5/8 x 7-1/2 W/NUT & LOCKWASHER	4
9	2401115	2401115	STUD	1
10	480004	480004	SPRING NO. 9-2432-21 DANLY	1
11	2401159	2401159	SPHERICAL WASHER SET	1
12	2401118C	2401118C	SPACER	1
13	480102	480102	3/4-10 JAM NUT	3
14	480093	480093	3/4 SAE WASHER	1
15	2401123	2401123	YOKE PIN	1
16	2401161C	2401161D	TRACTOR DRIVE FRAME	1
17	2401116	2401116	CHAIN COVER	1
18	2401143	2401143	DRIVE WHEEL	1
19	686375500	686375500	3/8-16 x 1/2 Hol. Hd SET SCREW	2
20	2401145	2401145	DRIVE SHAFT	1
21			MOTOR (SEE MOTOR SHEET)	1
22	050402	050402	BEARING SFT-22 S.M.	2
23			SPROCKET (SEE TABLE) WITH SET SCREWS	1
24	2801106E	2801106E	SPROCKET WITH SET SCREWS	1
25			CHAIN RC-50	1
26	686500500	686500500	1/2-13 x 5" HEX HD TAP BOLT	1
27	680375175	680375175	CAPSCREW 3/8-16 x 1-3/4" W/NUT & LW	4
28	680500200	680500200	CAPSCREW 1/2-13 x 2" W/NUT & LW	2
29	680500175	680500175	CAPSCREW 1/2-13 x 1-3/4" W/NUT & LW	2
30	490140	490140	3/8" CUT WASHER	4
31	6400600	6400600	MASTER XL REDUCER	1
32	480128	480128	KEY 3/8 x 3/8 x 3-1/8 STR ROUND END	1
33	480132	480132	KEY 3/8 x 3/8 x 1-1/8 STR	1
34	480119	480119	KEY 1/4 x 1/4 x 1-3/4 STR	1
35	680250300	680250300	CAPSCREW 1/4-20 x 3 W/NUT & LW	3
36	480106	480106	1/2-13 HEX NUT	1
37	2401113	2401113	TOW LUG (WHEN FURNISHED)	1
38	2401118M	2401118M	SPACER	1

	REF 23 - PART NO. - DRIVEN SPROCKET				
TRACTOR SPEED F.P.M.	100	125	150	175	200
SPROCKET PART NO.	2801109Y	2801109Z	2801109BA	2801109BB	2801109BC

PARTS LIST

2409 TRACTOR

WITH 56C FRAME MOTOR
AND TEXTRON REDUCER
EXPLOSION PROOF



PARTS LIST

2409 TRACTOR

WITH 56C FRAME MOTOR
AND TEXTRON REDUCER
EXPLOSION PROOF

REF. NO.	PART NO. 2409J	2409K	DESCRIPTION	QTY.
1	2401110	2401110	CARRIER SIDE PLATE	2
2	SPECIAL	SPECIAL	4" WHEEL ASSY.-NUT-LOCKWASHER	4
3	2401111	2401111	ROD EYE	1
4	2401112	2401112	TOW LUG	1
5	SPECIAL	SPECIAL	NYLON SIDE GUIDE ROLLER	4
6	682625150	682625150	5/8-11 X 1-1/2" TURNBOLT	4
7	2401114	2401114	SPACER	4
8	680625750	680625750	CAPSCREW 5/8 X 7 1/2 W/NUT&LOCKWASHER	4
9	2401115	2401115	STUD	1
10	480004	480004	SPRING NO. 9-2432-21 DANLY	1
11	2401159	2401159	SPHERICAL WASHER SET	1
12	2401118C	2401118C	SPACER	1
13	480102	480102	3/4-10 JAM NUT	3
14	480093	480093	3/4 SAE WASHER	1
15	2401123	2401123	YOKE PIN	1
16	2401161C	2401161D	TRACTOR DRIVE FRAME	1
17	2401116	2401116	CHAIN COVER	1
18	2401143	2401143	DRIVE WHEEL	1
19	686375500	686375500	3/8-16 X 1/2 HOL. HD. SET SCREW	2
20	2401145	2401145	DRIVE SHAFT	1
21			EXPLOSION PROOF MOTOR (SEE MOTOR SHEET)	1
22	050402	050402	BEARING SFT-22 S.M.	2
23			SPROCKET (SEE TABLE) WITH SET SCREWS	1
24	2801106E	2801106E	SPROCKET WITH SET SCREWS	1
25			CHAIN RC50	1
26	686500450	686500450	1/2-13 X 4 1/2 HEX HD. TAP BOLT	1
27	680375175	680375175	CAPSCREW 3/8-16 X 1 3/4" W/NUT & LW	4
28	680500200	680500200	CAPSCREW 1/2-13 X 2" W/NUT & LW	2
29	680500175	680500175	CAPSCREW 1/2-13 X 1 3/4" W/NUT & LW	2
30	490140	490140	3/8" CUT WASHER	4
31	6400601	6400601	TEXTRON REDUCER	1
32	480128	480128	KEY 3/8 X 3/8 X 3 1/8" STR. RND. ENDS	1
33	480132	480132	KEY 3/8 X 3/8 X 1 1/8" STR.	1
34	480119	480119	KEY 1/4 X 1/4 X 1 3/4" STR.	1
35	680250300	680250300	CAPSCREW 1/4-20 X 3 W/NUT & LW	3
36	480106	480106	1/2-13 HEX NUT	1
37	2401113	2401113	TOW LUG (WHEN FURNISHED)	1
38	2401118M	2401118M	SPACER	1
39	480099	480099	5/8 SAE WASHER	4

	REF. 23 - PART NO. - DRIVEN SPROCKET				
DRIVE SPEED FPM	100	125	150	175	200
SPROCKET PART NO.	2801109Y	2801109Z	2801109BA	2801109BB	2801109BC

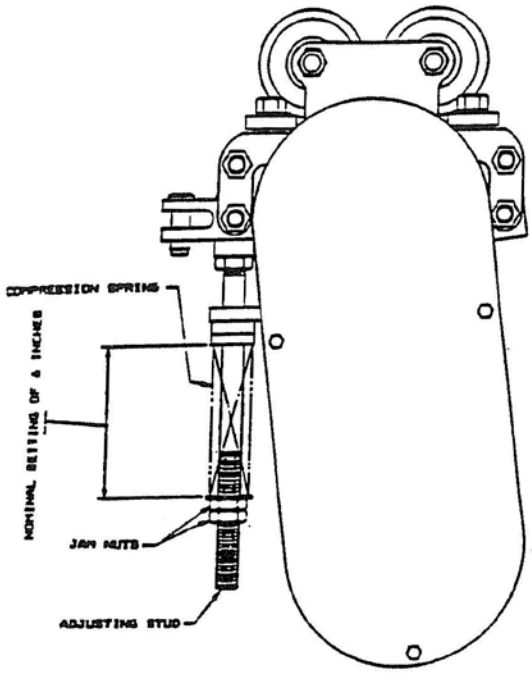


FIG. 1

GENERAL

2409 TRACTOR DRIVE IS POWERED BY A DOUBLE REDUCTION HELICAL GEARMOTOR WITH A ROLLER CHAIN FINAL REDUCTION BETWEEN THE REDUCER AND DRIVE WHEEL SHAFT WHICH IS SUPPORTED BY A WHEEL CARRIER ON THE TRAMBEAM TRACK.

THE WHEEL CARRIER RIDES THE TRAMBEAM TRACK ON FOUR FLANGELESS STEEL WHEELS AND IS GUIDED ALONG THE TRAMBEAM TRACK BY FOUR SIDE GUIDE ROLLERS VIRTUALLY ELIMINATING ANY BINDING BETWEEN THE WHEEL CARRIER AND THE TRAMBEAM TRACK.

THE DRIVE HAS A 6 INCH DIAMETER POLYURETHANE DRIVE WHEEL. TRACTION IS OBTAINED BY THE DRIVE WHEEL BEARING AGAINST THE BOTTOM OF TRACK. PRESSURE IS APPLIED BY A COMPRESSION SPRING AND IS ADJUSTABLE.

INSTALLATION

CAREFULLY INSPECT THE TRACTOR ASSEMBLY FOR DAMAGE. COMPLETELY INSTALL THE ASSEMBLED UNIT ON THE RUNWAY AND ATTACH THE TOW-BAR TO THE END TRUCK OR CARRIER LOADBAR TOW-LINK.

ADJUSTMENT FOR PROPER DRIVE WHEEL PRESSURE IS ACCOMPLISHED BY TIGHTENING THE LOWER JAM NUTS ON THE THREADED ADJUSTING STUD COMPRESSING THE SPRING TO A NOMINAL SETTING OF 6 INCHES. (SEE FIG-1)

THIS SPRING ADJUSTMENT IS EQUIVALENT TO APPROXIMATELY 413 POUNDS PRESSURE ON DRIVE WHEEL.

CONNECT MOTOR LEADS TO LINE OF PROPER VOLTAGE AS STAMPED ON MOTOR NAME PLATE: CHECK VOLTAGE, FREQUENCY, PHASE, ETC. CONNECTION DIAGRAM WILL BE FOUND IN TERMINAL BOX OR ON MOTOR NAME PLATE.

MAINTENANCE

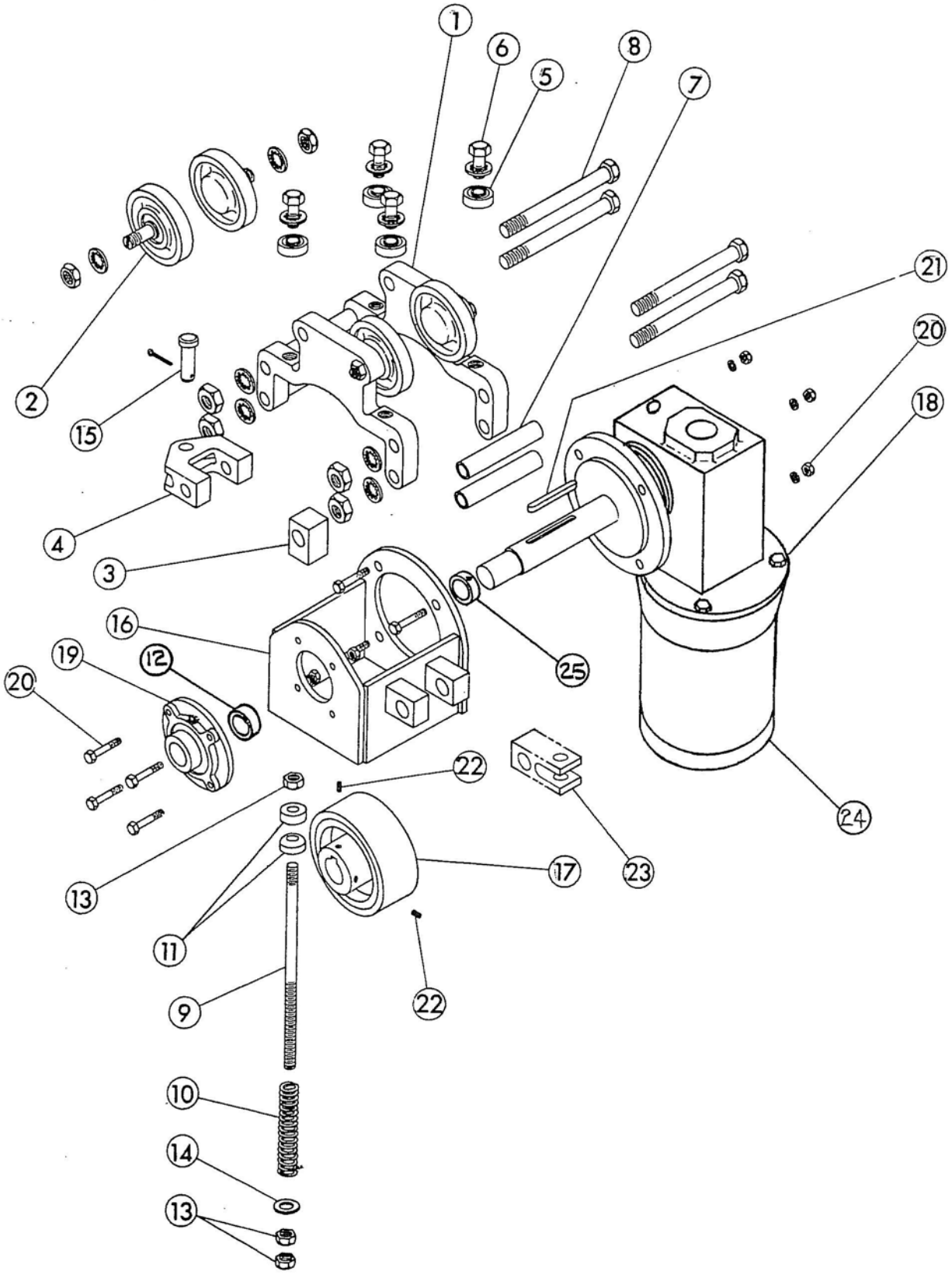
OCCASIONAL READJUSTMENT OF TRACTOR ADJUSTMENT SPRING SHOULD BE MADE TO COMPENSATE FOR DRIVE WHEEL WEAR AND TO MAINTAIN THE PROPER PRESSURE BETWEEN THE TRAMBEAM TRACK AND DRIVE WHEEL.

WHEN THE TIRE WEAR REDUCES THE DIAMETER OF THE WHEEL BY 1/2 INCH OR MORE - REPLACEMENT OF WHEEL IS ESSENTIAL.

LUBRICATION

GREASE FITTINGS ARE PROVIDED ON BEARINGS CARRYING THE DRIVE SHAFT AND IT IS RECOMMENDED THAT THESE BEARINGS BE LUBRICATED PERIODICALLY WITH ALEMITE NO. 38 GREASE OR EQUAL. WHEEL AND SIDE GUIDE ROLLER BEARINGS ARE SEALED FOR LIFE AND REQUIRE NO LUBRICATION.

PROPER OIL LEVEL MUST BE MAINTAINED IN GEARCASE AT ALL TIMES. FREQUENT INSPECTION WITH THE UNIT NOT RUNNING SHOULD BE MADE. SEE GEAR REDUCER INSTRUCTION MANUAL FOR MAINTENANCE AND RECOMMENDED LUBRICANTS.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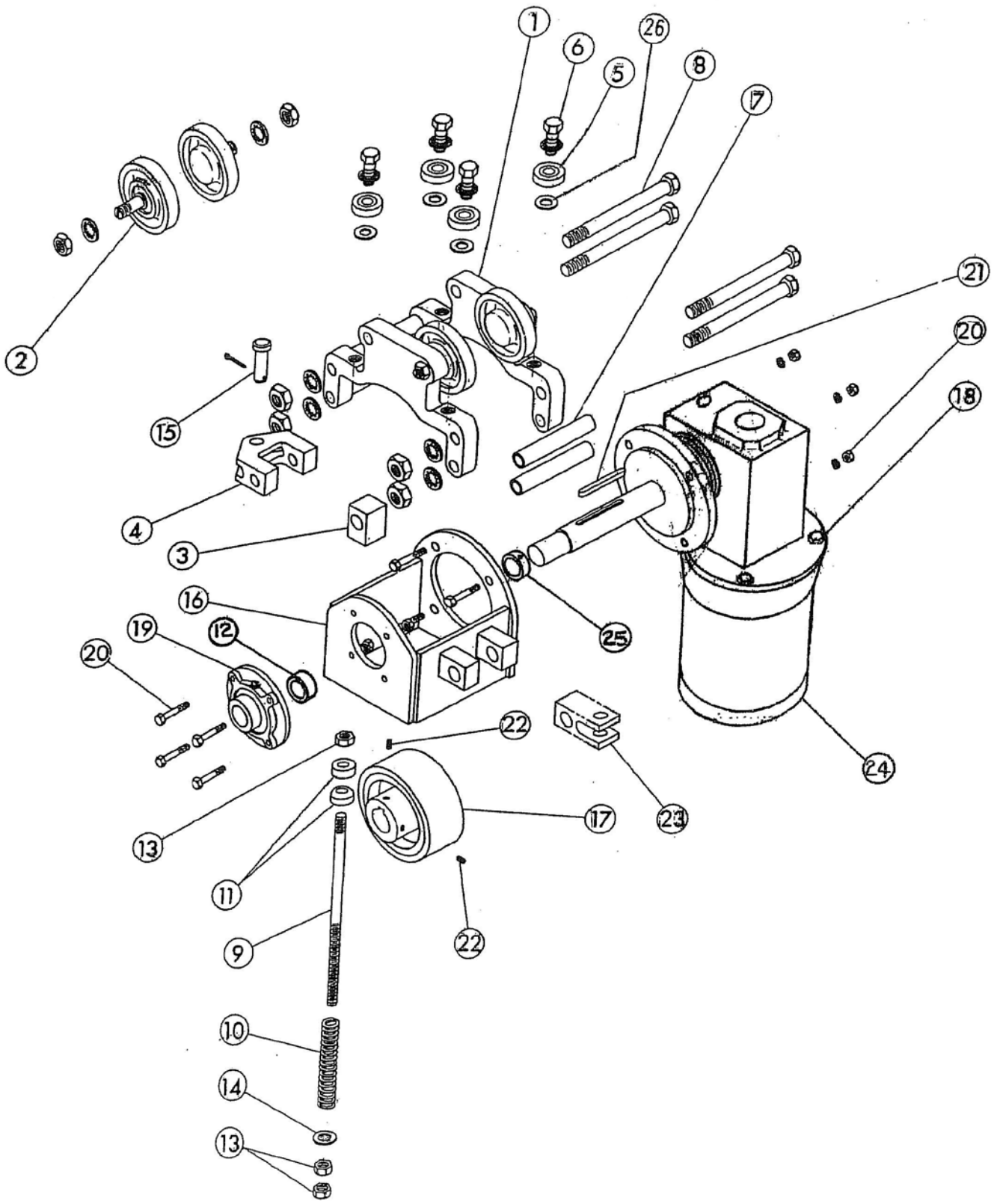
REF. NO.	PART NO. 24010 L.H.	PART NO. 24010 R.H.	DESCRIPTION	REQ'D
1	2401110	2401110	CARRIER SIDE PLATE	2
2	10270	10270	4" WHEEL ASSEMBLY-NUT-LOCKWASHER	4
3	2401111	2401111	ROD EYE	1
4	2401112	2401112	TOW LUG	1
5	050009	050009	BEARING KP-10 MRC	4
6	682625150	682625150	TURN BOLT 5/8 -11 x 1-1/2	4
7	2401114	2401114	SPACER	4
8	680625750	680625750	CAPSCREW 5/8 x 7-1/2 HEX NUT-LW	4
9	2401115	2401115	STUD	1
10	480004	480004	SPRING NO. 9-2432-21 DANLY	1
11	2401159	2401159	SPHERICAL WASHER SET	1
12	2401118-F	2401118-F	SPACER	1
13	480102	480102	3/4 -10 JAM NUT	3
14	480093	480093	3/4 SAE WASHER	1
15	2401123	2401123	YOKE PIN	1
16	2401108E	2401108F	TRACTOR DRIVE FRAME	1
17	2401143	2401143	DRIVE WHEEL	1
18			GEARBOX	1
19	050401	050401	BEARING MFC-20 S.M.	1
20	680375175	680375175	CAPSCREW 3/8-16 X 1-3/4 W/NUT & LW	8
21	480127	480127	KEY 3/8 x 3/8 x 2-3/4 STR. RD. ENDS	1
22	686375500	68375500	3/8-16 x 1/2 HOLLOW HD SET SCREW	2
23	2401113	2401113	TOW LUG (WHEN FURNISHED)	1
24			MOTOR	1
25	480042	480042	SET COLLAR	1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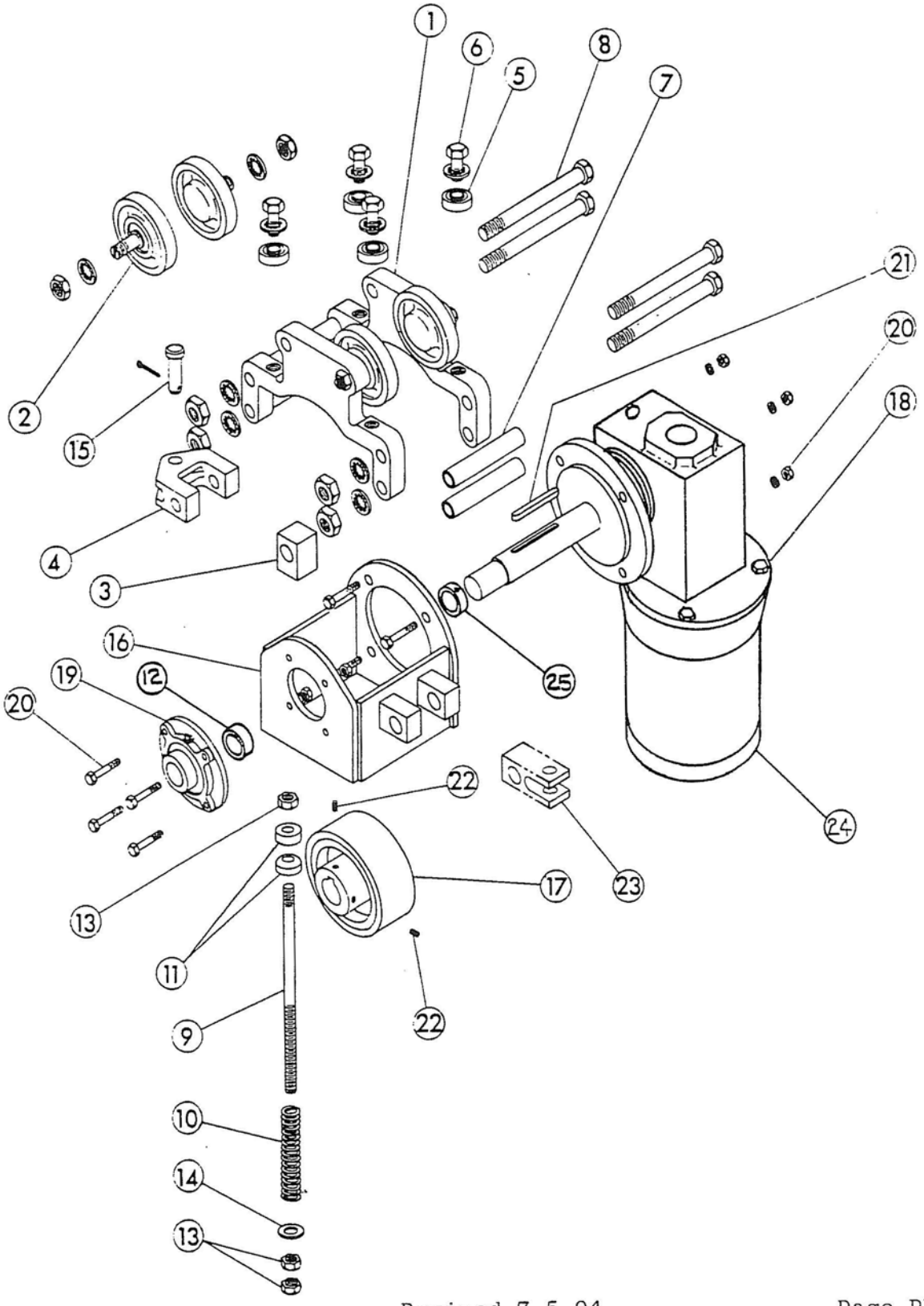
PARTS LIST
24-10 TRACTOR

REF. NO.	PART NO. 24010 L.H.	24010 R.H.	DESCRIPTION	QTY.
1	2401110	2401110	CARRIER SIDE PLATE	2
2	010270	010270	4" WHEEL ASSY-NUT-LOCKWASHER	4
3	2401111	2401111	ROD EYE	1
4	2401112	2401112	TOW LUG	1
5	0500001	0500001	BEARING 6303 SKF	4
6	2401175	2401175	GUIDE ROLLER BOLT WITH INT. L.W.	4
7	2401114	2401114	SPACER	4
8	680625750	680625750	CAPSCREW 5/8 X 7 1/2" HEX. NUT-LW	4
9	2401115	2401115	STUD	1
10	480004	480004	SPRING NO. 9-2432-21 DANLY	1
11	2401159	2401159	SPHERICAL WASHER SET	1
12	2401118F	2401118F	SPACER	1
13	480102	480102	3/4-10 JAM NUT	3
14	480093	480093	3/4 SAE WASHER	1
15	2401123	2401123	YOKE PIN	1
16	2401108E	2401108F	TRACTOR DRIVE FRAME	1
17	2401143	2401143	DRIVE WHEEL	1
18			GEARBOX	1
19	050401	050401	BEARING MFC-20 S.M.	1
20	680375175	680375175	CAPSCREW 3/8-16 X 1 3/4 W/NUT & LW	8
21	480127	480127	KEY 3/8 X 3/8 X 2 3/4 STR. RD. ENDS	1
22	686375500	686375500	3/8-16 X 1/2 HOL. HD. SET SCREW	2
23	2401113	2401113	TOW LUG (WHEN FURNISHED)	1
24			MOTOR (SEE MOTOR SHEET)	1
25	480042	480042	SET COLLAR	1
26	480099	480099	5/8 SAE WASHER	4

24-10 TRACTOR
EXPLOSION PROOF



PARTS LIST

24-10 TRACTOR

EXPLOSION PROOF

REF. NO.	PART NO. 24010 L.H.	PART NO. 24010 R.H.	DESCRIPTION	REQ'D.
1	2401110	2401110	CARRIER SIDE PLATE	2
2	SPECIAL	SPECIAL	4" BRONZE WHEEL ASSEMBLY W/NUT & LW	4
3	2401111	2401111	ROD EYE	1
4	2401112	2401112	TOW LUG	1
5	SPECIAL	SPECIAL	NYLON ROLLER GUIDE	4
6	682625150	682625150	TURN BOLT 5/8-11 X 1-1/2	4
7	2401114	2401114	SPACER	4
8	680625750	680625750	CAP SCREW 5/8 X 7-1/2 HEX-NUT-LOCKWASHER	4
9	2401115	2401115	STUD	1
10	480004	480004	SPRING NO. 9-2432-21 DANLY	1
11	2401159	2401159	SPHERICAL WASHER SET	1
12	2401118-F	2401118-F	SPACER	1
13	480102	480102	3/4-10 JAM NUT	3
14	480093	480093	3/4 SAE WASHER	1
15	2401123	2401123	YOKE PIN	1
16	2401108E	2401108F	TRACTOR DRIVE FRAME	1
17	2401143	2401143	DRIVE WHEEL	1
18			GEAR BOX	1
19	050401	050401	BEARING MFC-20 S.M.	1
20	680375175	680375175	CAP SCREW 3/8-16 X 1-3/4-NUT-LOCKWASHER	8
21	480127	480127	KEY 3/8 X 3/8 X 2-3/4 STRAIGHT RD. ENDS	1
22	686375500	686375500	3/8-16 X 1/2 HOL. HD. SET SCREW	2
23	2401113	2401113	TOW LUG (WHEN FURNISHED)	1
24			MOTOR	1
25	480042	480042	SET COLLAR	1

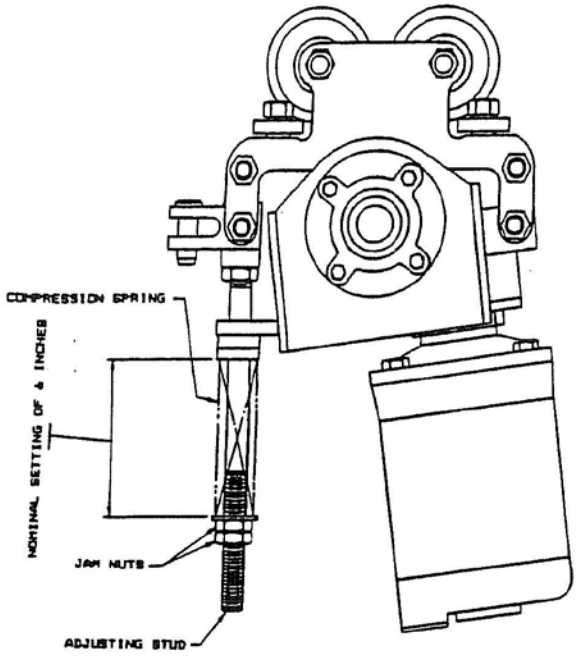


FIG. 1

GENERAL

24010 TRACTOR DRIVE IS POWERED BY A SINGLE REDUCTION, RIGHT ANGLE WORM GEARMOTOR WITH A SHAFT FOR THE DRIVE WHEEL WHICH IS SUPPORTED BY A WHEEL CARRIER ON THE TRAMBEAM TRACK.

THE WHEEL CARRIER RIDES THE TRAMBEAM TRACK ON FOUR FLANGELESS STEEL WHEELS AND IS GUIDED ALONG THE TRAMBEAM TRACK BY FOUR SIDE GUIDE ROLLERS VIRTUALLY ELIMINATING ANY BINDING BETWEEN THE WHEEL CARRIER AND THE TRAMBEAM TRACK.

THE DRIVE HAS A 6 INCH DIAMETER POLYURETHANE DRIVE WHEEL. TRACTION IS OBTAINED BY THE DRIVE WHEEL BEARING AGAINST THE BOTTOM OF TRACK. PRESSURE IS APPLIED BY A COMPRESSION SPRING AND IS ADJUSTABLE.

INSTALLATION

CAREFULLY INSPECT THE TRACTOR ASSEMBLY FOR DAMAGE. COMPLETELY INSTALL THE ASSEMBLED UNIT ON THE RUNWAY AND ATTACH THE TOW-BAR TO THE END TRUCK OR CARRIER LOADBAR TOW-LINK.

ADJUSTMENT FOR PROPER DRIVE WHEEL PRESSURE IS ACCOMPLISHED BY TIGHTENING THE LOWER JAM NUTS ON THE THREADED ADJUSTING STUD COMPRESSING THE SPRING TO A NOMINAL SETTING OF 6 INCHES. (SEE FIG-1)

THIS SPRING ADJUSTMENT IS EQUIVALENT TO APPROXIMATELY 413 POUNDS PRESSURE ON DRIVE WHEEL.

CONNECT MOTOR LEADS TO LINE OF PROPER VOLTAGE AS STAMPED ON MOTOR NAME PLATE: CHECK VOLTAGE, FREQUENCY, PHASE, ETC. CONNECTION DIAGRAM WILL BE FOUND IN TERMINAL BOX OR ON MOTOR NAME PLATE.

MAINTENANCE

OCCASIONAL READJUSTMENT OF TRACTOR ADJUSTMENT SPRING SHOULD BE MADE TO COMPENSATE FOR DRIVE WHEEL WEAR AND TO MAINTAIN THE PROPER PRESSURE BETWEEN THE TRAMBEAM TRACK AND DRIVE WHEEL.

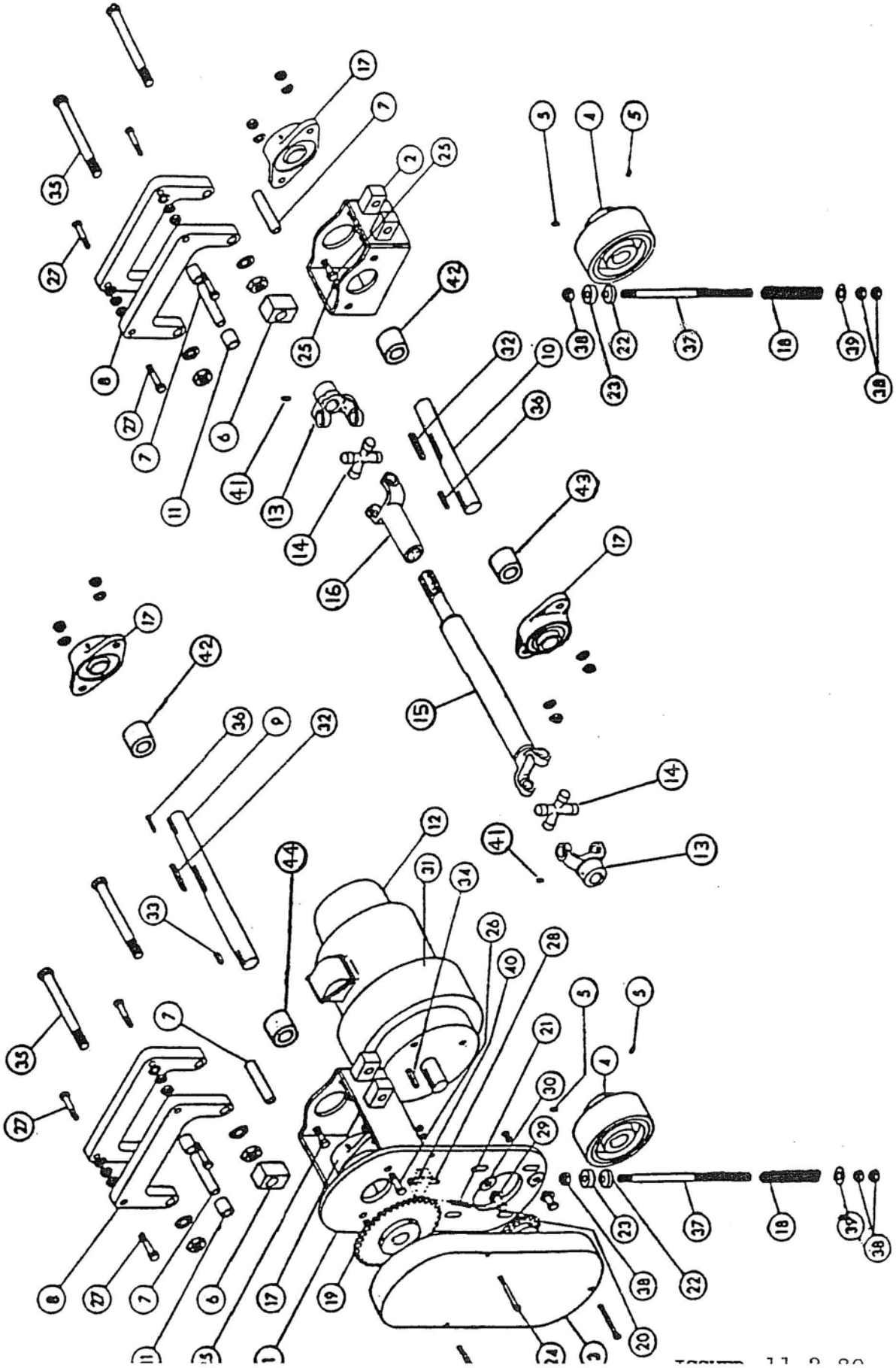
WHEN THE TIRE WEAR REDUCES THE DIAMETER OF THE WHEEL BY 1/2 INCH OR MORE - REPLACEMENT OF WHEEL IS ESSENTIAL.

LUBRICATION

GREASE FITTINGS ARE PROVIDED ON BEARINGS CARRYING THE DRIVE SHAFT AND IT IS RECOMMENDED THAT THESE BEARINGS BE LUBRICATED PERIODICALLY WITH ALEMITE NO. 38 GREASE OR EQUAL. WHEEL AND SIDE GUIDE ROLLER BEARINGS ARE SEALED FOR LIFE AND REQUIRE NO LUBRICATION.

PROPER OIL LEVEL MUST BE MAINTAINED IN GEARCASE AT ALL TIMES. FREQUENT INSPECTION WITH THE UNIT NOT RUNNING SHOULD BE MADE. SEE GEAR REDUCER INSTRUCTION MANUAL FOR MAINTENANCE AND RECOMMENDED LUBRICANTS.

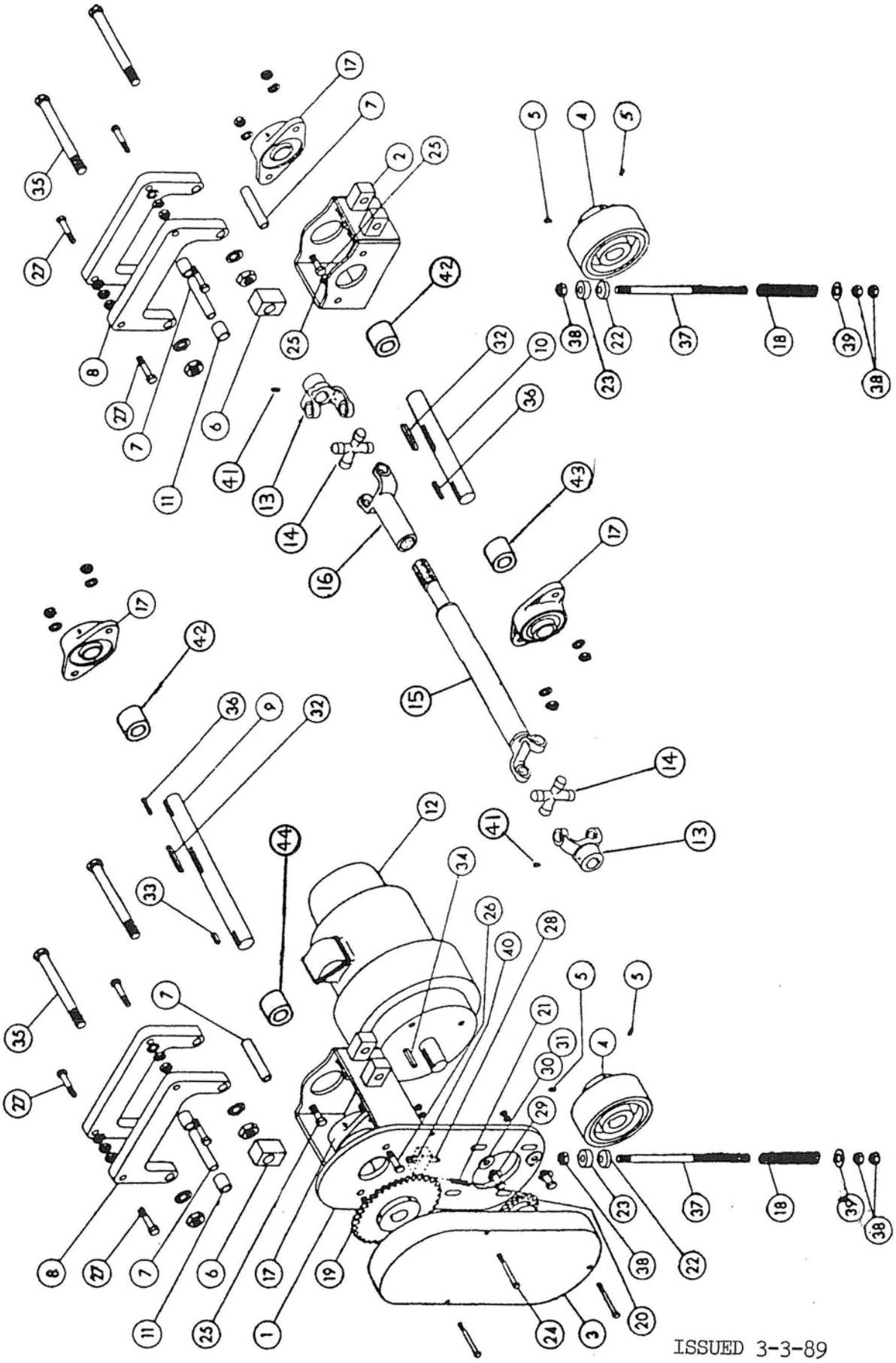
24011C
D. G. CARRIER DRIVE



PARTS LIST
24011C
D.G. CARRIER DRIVE

REF. NO.	PART NO.	DESCRIPTION	REQ'D
1	2401170	DRIVE FRAME	1
2	2401128	DRIVE FRAME	1
3	2401116	CHAIN COVER	1
4	2401143	DRIVE WHEEL	2
5	686375500	3/8-16 x 1/2 Hol. Head Set Screw	4
6	2401111	ROD EYE	2
7	2401114	SPACER	4
8	2401129	SUPPORT HANGER	4
9	2401130F	SHAFT	1
10	2401131G	SHAFT	1
11	2401118H	SPACER	4
12		MOTOR (SEE MOTOR SHEET)	1
13	2401163	END YOKE	2
14	2401164	CROSS & BEARING KIT	2
15		TORQUE TUBE WITH 2401165 TUBE YOKE AND 2401166 SLIP TUBE SHAFT	1
16	2401167	SLIP YOKE	1
17	050402	BEARING NO. SFT-23 S.M.	4
18	480004	SPRING NO. 9-2432-21 DANLY	2
19		SPROCKET WITH 2 SET SCREWS (SEE TABLE)	1
20	2801106E	SPROCKET WITH 2 SET SCREWS	1
21		CHAIN RC50	1
22	2401159	SPHERICAL WASHER	2
23	2401159	CHAIR WASHER	2
24	680250300	CAPSCREW 1/4 -20 x 3" W/Nut & LW	3
25	680500175	CAPSCREW 1/2 -13 x 1-3/4" W/Nut & LW	6
26	680500200	CAPSCREW 1/2 -13 x 2" W/Nut & LW	2
27	680500225	CAPSCREW 1/2 -13 x 2-1/4" W/Nut & LW	8
28	686500500	1/2 -13 x 5 HEX HD TAP BOLT	1
29	680375175	CAPSCREW 3/8 -16 x 1-3/4" W/Nut & LW	4
30	480140	3/8" CUT WASHER	4
31	6400600	MASTER XL REDUCER	1
32	480128	KEY 3/8 x 3/8 x 3-1/8" Str. ROUND ENDS	2
33	480132	KEY 3/8 x 3/8 x 1-1/8" Str.	1
34	480119	KEY 1/4 x 1/4 x 1-3/4" Str.	1
35	680625750	C.S. 5/8 x 7-1/2" W/Nut & Intl. S.P. LW	4
36	480141	KEY 3/8 x 3/8 x 1-3/4" Str.	2
37	2401115	STUD	2
38	480102	3/4 -10 JAM NUT	6
39	480093	3/4 SAE WASHER	2
40	480106	1/2" HEX NUT	1
41	686375375	3/8 -16 x 3/8" Hollow Hd Set Screw	2
42	2401118F	SPACER	2
43	2401118M	SPACER	1
44	2401118S	SPACER	1

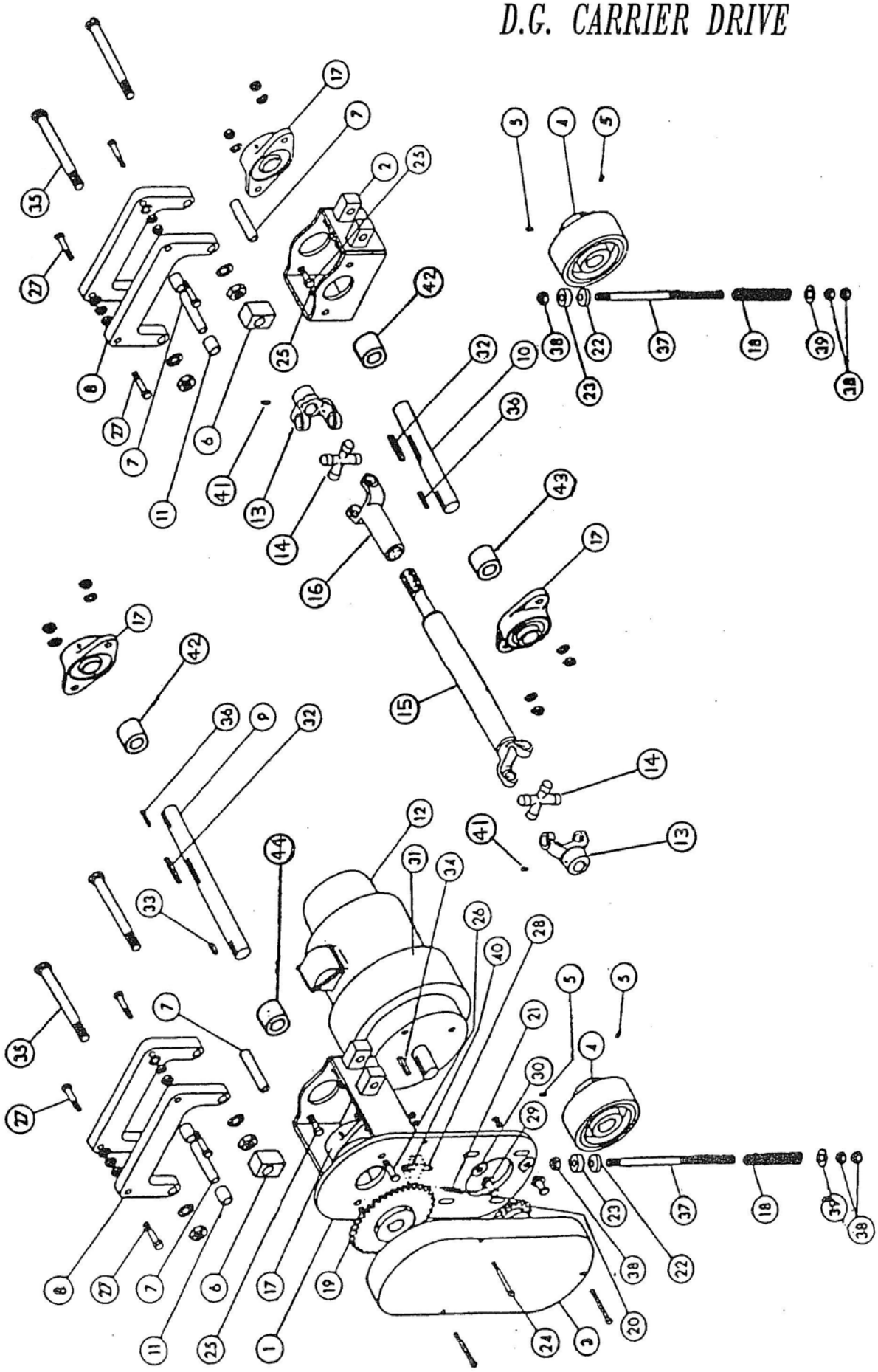
	REF. 19 - PART NO. - DRIVEN SPROCKET				
Drive Speed FPM	100	125	150	175	200
Sprocket Part No.	2801109Y	2801109Z	2801109BA	2801109BB	2801109BC



REF. NO.	PART NO.	DESCRIPTION	REQ'D
1	2401127	DRIVE FRAME	1
2	2401128	DRIVE FRAME	1
3	2401116	CHAIN COVER	1
4	2401143	DRIVE WHEEL	2
5	686375500	3/8-16 x 1/2 Ho. Hd. SET SCREW	4
6	2401111	ROD EYE	2
7	2401114	SPACER	4
8	2401129	SUPPORT HANGER	4
9	2401130F	SHAFT	1
10	2401131G	SHAFT	1
11	2401118H	SPACER	4
12		MOTOR (SEE MOTOR SHEET)	1
13	2401163	END YOKE	2
14	2401164	CROSS & BEARING KIT	2
15		TORQUE TUBE WITH 2401165 TUBE YOKE AND 2401166 SLIP TUBE SHAFT	1
16	2401167	SLIP YOKE	1
17	050402	BEARING NO. SFT-22 S.M.	4
18	480004	SPRING NO. 9-2432-21 DANLY	2
19		SPROCKET WITH 2 SET SCREWS (SEE TABLE)	1
20	2801109S	SPROCKET WITH 2 SET SCREWS	1
21		CHAIN RC50	1
22	2401159	SPHERICAL WASHER	2
23	2401159	CHAIR WASHER	2
24	680250300	CAPSCREW 1/4 -20 x 3" W/NUT & LW	3
25	680500175	CAPSCREW 1/2 -13 x 1-3/4" W/NUT & LW	6
26	680500200	CAPSCREW 1/2 -13 x 2" W/NUT & LW	2
27	680500225	CAPSCREW 1/2 -13 x 2-1/4" W/NUT & LW	8
28	686500300	1/2-13 x 3" SQ HD SET SCREW CUP POINT	1
29	684500125	NYLOC CAPSCREW 1/2 -13 x 1-1/4"	4
30	480130	1/2" CUT WASHER	4
31	480096	1/2" INTERNAL SHAKEPROOF WASHER	4
32	480128	KEY 3/8 x 3/8 x 3-1/2" STRAIGHT RND ENDS	2
33	480132	KEY 3/8 x 3/8 x 1-1/8" STRAIGHT	1
34	480131	KEY 3/8 x 3/8 x 1" STRAIGHT	1
35	680625750	C.S. 5/8 x 7-1/2" W/NUT & INTERNAL S.P. LW	4
36	480141	KEY 3/8 x 3/8 x 1-3/4" STRAIGHT	2
37	2401115	STUD	2
38	480102	3/4 -10 JAM NUT	6
39	480093	3/4 SAE WASHER	2
40	480129	1/2" JAM NUT	1
41	686375375	3/8-16 x 3/8 HOL HD SET SCREW	2
42	2401118F	SPACER	2
43	2401118M	SPACER	1
44	2401118S	SPACER	1

	REF. 19 - PART NO. - DRIVEN SPROCKET				
Drive Speed FPM	100	125	150	175	200
Sprocket Part No.	2801109Y	2801109Z	2801109BA	2801109BB	2801109BC

D.G. CARRIER DRIVE



PARTS LIST

24011E

D.G. CARRIER DRIVE

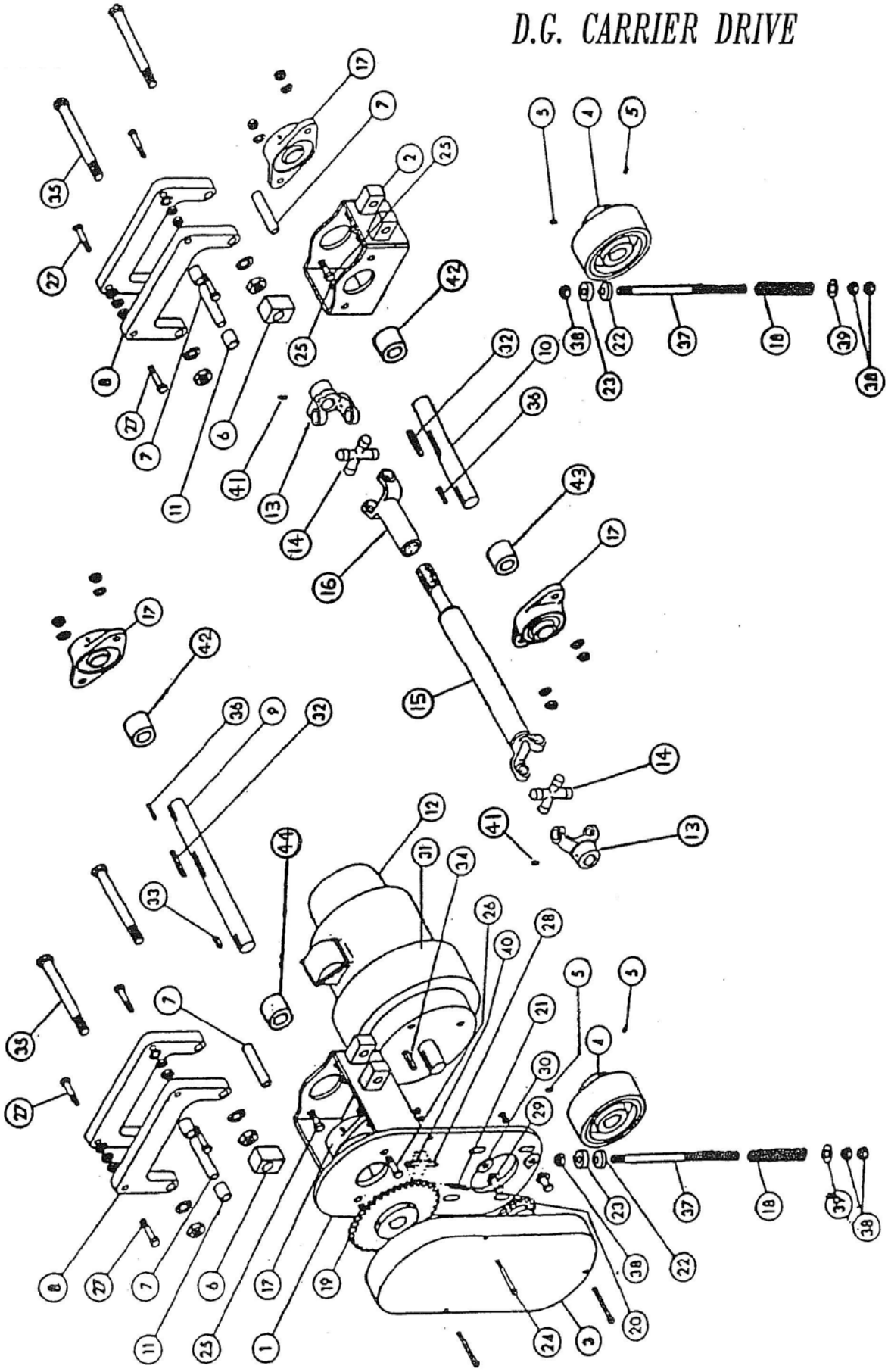
REF. NO.	PART NO.	DESCRIPTION	QTY.
1	2401170	DRIVE FRAME	1
2	2401128	DRIVE FRAME	1
3	2401116	CHAIN COVER	1
4	2401143	DRIVE WHEEL	2
5	686375500	3/8-16 X 1/2 HOL. HEAD SET SCREW	4
6	2401111	ROD EYE	2
7	2401114	SPACER	4
8	2401129	SUPPORT HANGER	4
9	2401130F	SHAFT	1
10	2401131G	SHAFT	1
11	2401118H	SPACER	4
12		MOTOR (SEE MOTOR SHEET)	1
13	2401163	END YOKE	2
14	2401164	CROSS & BEARING KIT	2
15		TORQUE TUBE WITH 2401165 TUBE YOKE AND 2401166 SLIP TUBE SHAFT	1
16	2401167	SLIP YOKE	1
17	050402	BEARING NO. SFT-23 S.M.	4
18	480004	SPRING NO. 9-2432-21 DANLY	2
19		SPROCKET W/ 2 SET SCREWS (SEE TABLE)	1
20	2801106E	SPROCKET W/ 2 SET SCREWS	1
21		CHAIN RC50	1
22	2401159	SPHERICAL WASHER	2
23	2401159	CHAIR WASHER	2
24	680250300	CAPSCREW 1/4-20 X 3" W/ NUT & LW	3
25	680500175	CAPSCREW 1/2-13 X 1 3/4" W/ NUT & LW	6
26	680500200	CAPSCREW 1/2-13 X 2" W/NUT & LW	2
27	680500225	CAPSCREW 1/2-13 X 2 1/4" W/NUT & LW	8
28	686500450	1/2-13 X 4 1/2" HEX. HD. TAP BOLT	1
29	680375175	CAPSCREW 3/8-16 X 1 3/4" W/NUT & LW	4
30	480140	3/8" CUT WASHER	4
31	6400601	TEXTRON REDUCER	1
32	480128	KEY 3/8 X 3/8 X 3 1/8" STR. RND. ENDS	2
33	480132	KEY 3/8 X 3/8 X 1 1/8" STR.	1
34	480119	KEY 1/4 X 1/4 X 1 3/4" STR.	1
35	680625750	C.S. 5/8 X 7 1/2" W/NUT & INT. SP LW	4
36	480141	KEY 3/8 X 3/8 X 1 3/4" STR.	2
37	2401115	STUD	2
38	480102	3/4-10 JAM NUT	6
39	480093	3/4 SAE WASHER	2
40	480106	1/2" HEX NUT	1
41	686375375	3/8-16 X 3/8" HOL. HD. SET SCREW	2
42	2401118F	SPACER	2
43	2401118M	SPACER	1
44	2401118S	SPACER	1

	REF. 19 - PART NO. - DRIVEN SPROCKET				
DRIVE SPEED FPM	100	125	150	175	200
SPROCKET PART NO.	2801109Y	2801109Z	2801109BA	2801109BB	2801109BC

PARTS LIST

24011F

D.G. CARRIER DRIVE



PARTS LIST

24011F

D.G. CARRIER DRIVE

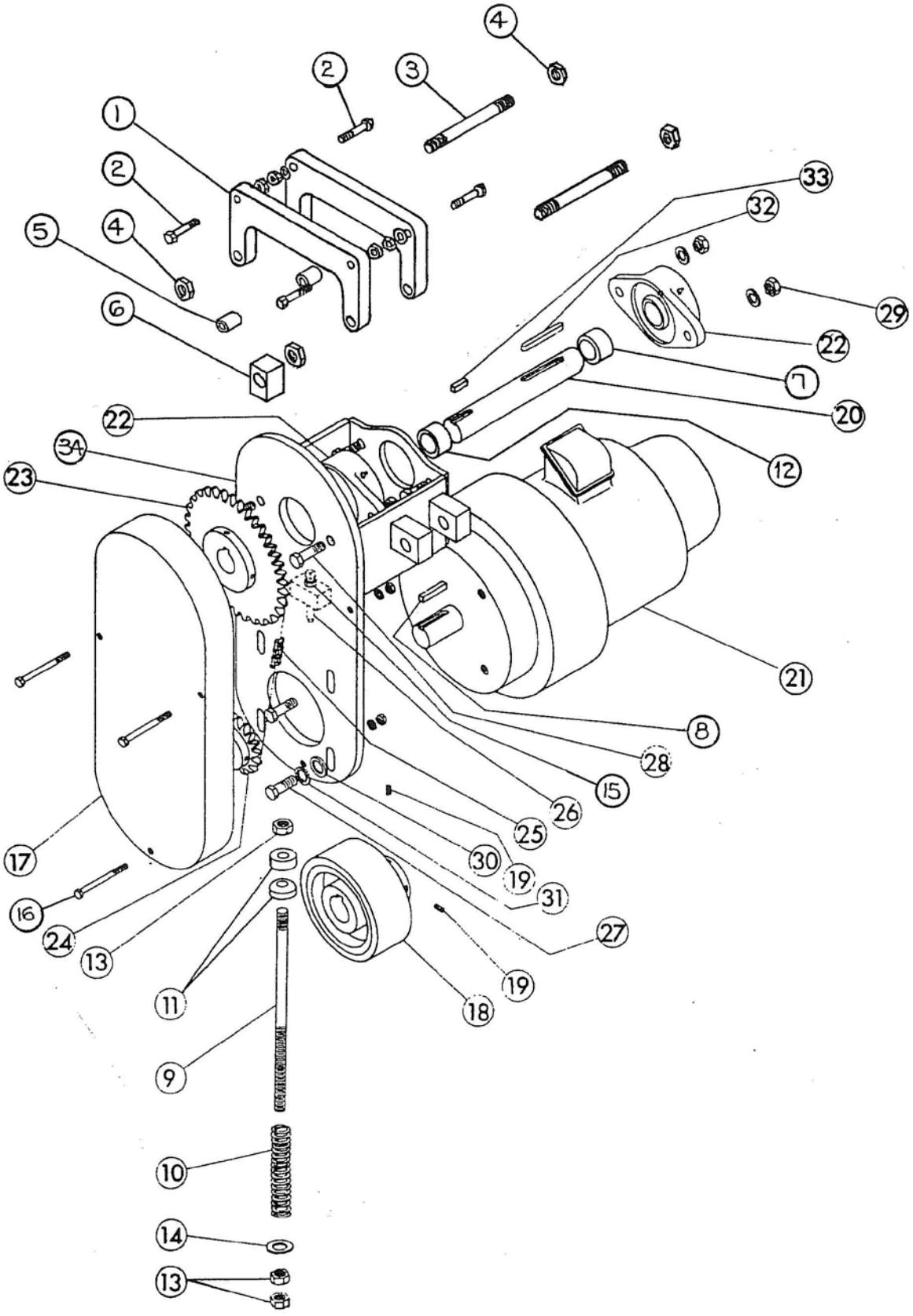
REF. NO.	PART NO.	DESCRIPTION	QTY.
1	2401170	DRIVE FRAME	1
2	2401128	DRIVE FRAME	1
3	2401116	CHAIN COVER	1
4	2401143	DRIVE WHEEL	2
5	686375500	3/8-16 X 1/2 HOL. HEAD SET SCREW	4
6	2401111	ROD EYE	2
7	2401114	SPACER	4
8	2401129	SUPPORT HANGER	4
9	2401130F	SHAFT	1
10	2401131G	SHAFT	1
11	2401118H	SPACER	4
12		MOTOR (SEE MOTOR SHEET)	1
13	2401163	END YOKE	2
14	2401164	CROSS & BEARING KIT	2
15		TORQUE TUBE WITH 2401165 TUBE YOKE AND 2401166 SLIP TUBE SHAFT	1
16	2401167	SLIP YOKE	1
17	050402	BEARING NO. SFT-23 S.M.	4
18	480004	SPRING NO. 9-2432-21 DANLY	2
19		SPROCKET W/ 2 SET SCREWS (SEE TABLE)	1
20	2801106H	SPROCKET W/ 2 SET SCREWS	1
21		CHAIN RC50	1
22	2401159	SPHERICAL WASHER	2
23	2401159	CHAIR WASHER	2
24	680250300	CAPSCREW 1/4-20 X 3" W/ NUT & LW	3
25	680500175	CAPSCREW 1/2-13 X 1 3/4" W/ NUT & LW	6
26	680500200	CAPSCREW 1/2-13 X 2" W/NUT & LW	2
27	680500225	CAPSCREW 1/2-13 X 2 1/4" W/NUT & LW	8
28	686500450	1/2-13 X 4 1/2" HEX. HD. TAP BOLT	1
29	680375175	CAPSCREW 3/8-16 X 1 3/4" W/NUT & LW	4
30	480140	3/8" CUT WASHER	4
31	6400602F	QUANTIS REDUCER	1
32	480128	KEY 3/8 X 3/8 X 3 1/8" STR. RND. ENDS	2
33	480132	KEY 3/8 X 3/8 X 1 1/8" STR.	1
34	480119	KEY 1/4 X 1/4 X 1 3/4" STR.	1
35	680625750	C.S. 5/8 X 7 1/2" W/NUT & INT. SP LW	4
36	480141	KEY 3/8 X 3/8 X 1 3/4" STR.	2
37	2401115	STUD	2
38	480102	3/4-10 JAM NUT	6
39	480093	3/4 SAE WASHER	2
40	480106	1/2" HEX NUT	1
41	686375375	3/8-16 X 3/8" HOL. HD. SET SCREW	2
42	2401118F	SPACER	2
43	2401118M	SPACER	1
44	2401118S	SPACER	1

	REF. 19 - PART NO. - DRIVEN SPROCKET				
DRIVE SPEED FPM	100	125	150	175	200
SPROCKET PART NO.	2801109Z	2801109BA	2801109BB	2801109BC	2801109DS

PARTS LIST

24015

D.G. CARRIER DRIVE



PARTS LIST
24015
D.G. CARRIER DRIVE

REF. NO.	PART NO.	DESCRIPTION	REQD.
1	2401129	SUPPORT HANGER	2
2	680500225	CAP SCREW 1/2-13 X 2-1/4 N-LW	4
3	2401151	TIE BOLTS	2
4	480052	5/8-11 FLEXLOC NUTS	4
5	2401150	SPACER	2
6	2401111	ROD EYE	1
7	2401118C	SPACER	1
8	480131	KEY 3/8 X 3/8 X 1 STRAIGHT	1
9	2401115	STUD	1
10	480004	SPRING NO. 9-2432-21 DANLY	1
11	2401159	SPHERICAL WASHER SET	1
12	2401118R	SPACER	1
13	480102	3/4-10 JAM NUT	3
14	480093	3/4 S.A.E. WASHER	1
15	480095	1/2 JAM NUT	1
16	680250300	CAP SCREW 1/4-20 X 3 N-LW	3
17	2401116	CHAIN COVER	1
18	2401143	DRIVE WHEEL	1
19	686375500	3/8-16 X 1/2 HOL. HD. SET SCREW	2
20	2401152	SHAFT	1
21		MOTOR (SEE MOTOR SHEET)	1
22	050402	BEARING NO. SFT-22 S.M.	3
23		SPROCKET W/2 SET SCREWS (SEE TABLE)	1
24	2401109S	SPROCKET W/2 SET SCREWS	1
25		CHAIN RC-50	1
26	68650300	1/2-13 X 3 SQ. HD. SET SCREW	1
27	680500125	CAP SCREW 1/2-13 X 1-1/4	4
28	680500200	CAP SCREW 1/2-13 X 2 N-LW	2
29	680500175	CAP SCREW 1/2-13 X 1-3/4-N-LW	4
30	480130	1/2 CUT WASHER	4
31	480096	1/2 INT. SHAKEPROOF WASHER	4
32	480128	KEY 3/8 X 3/8 X 3-1/8 STRAIGHT RND ENDS	1
33	480132	KEY 3/8 X 3/8 X 1-1/8 STRAIGHT	1
34	2401149	DRIVE FRAME	1

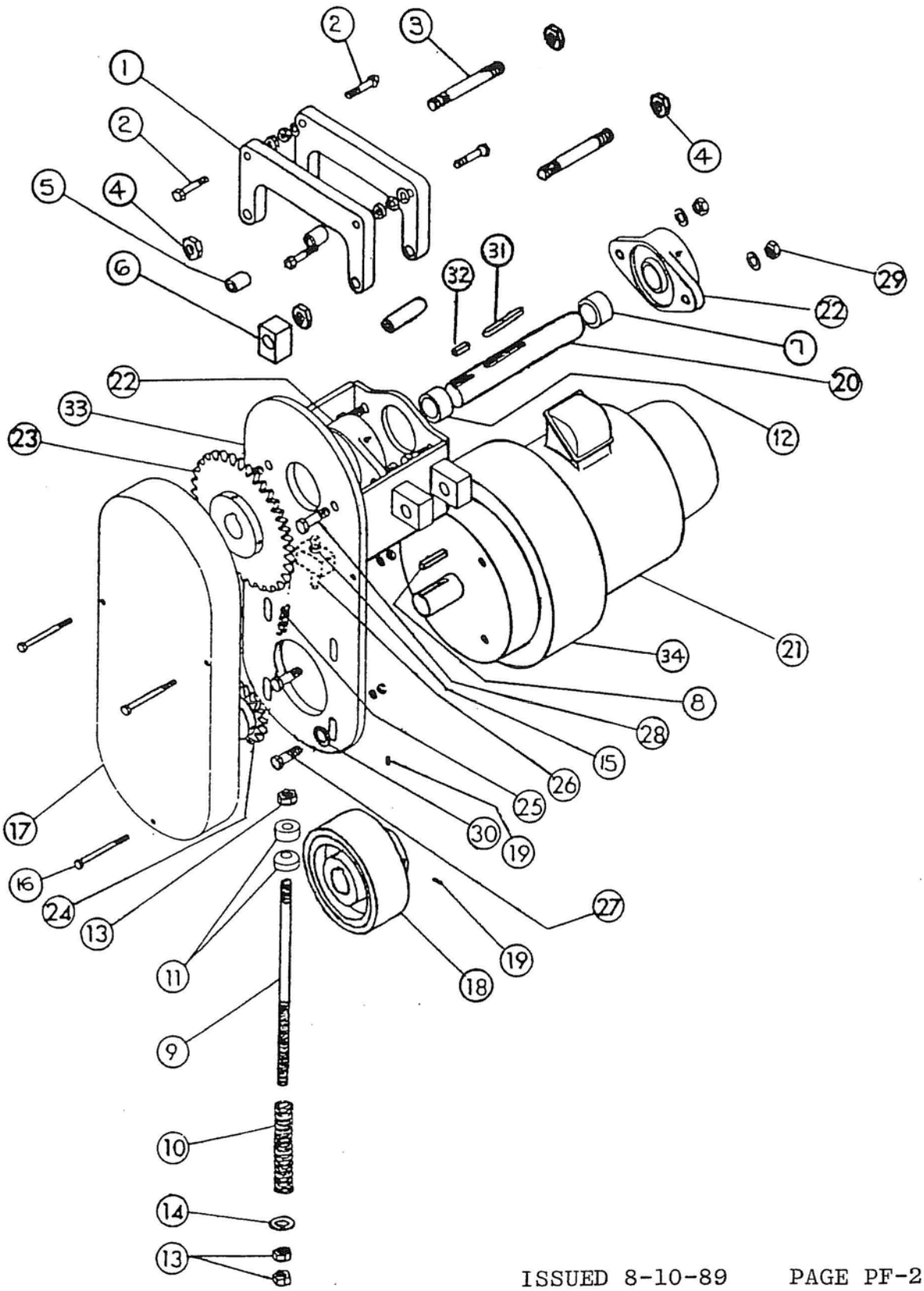
	REF. 23 - PART NO. - DRIVEN SPROCKET				
DRIVE SPEED FPM	100	125	150	175	200
SPROCKET PART NO.	2801109Y	2801109Z	2801109BA	2801109BB	2801109BC

PARTS LIST
24017D
D.G. CARRIER DRIVE

REF. NO.	PART NO.	DESCRIPTION	REQ'D
1	2401129	SUPPORT HANGER	2
2	680500225	CAPSCREW 1/2-13 x 2-1/4, Nut & LW	4
3	680625750	C.S. 5/8 x 7-1/2 W/Nut & Intl. Shakeproof LW	2
4	2401114	SPACER	2
5	2401118H	SPACER	2
6	2401111	ROD EYE	1
7	2401118F	SPACER	1
8	480131	KEY 3/8 x 3/8 x 1" STRAIGHT	1
9	2401115	STUD	1
10	480004	SPRING NO. 9-2432-21 DANLY	1
11	2401159	SPHERICAL WASHER SET	1
12	2401118S	SPACER	1
13	480102	3/4-10 JAM NUT	3
14	480093	3/4 S.A.E. WASHER	1
15	480129	1/2" JAM NUT	1
16	680250300	CAPSCREW 1/2-20 X 3" W/Nut & LW	3
17	2401116	CHAIN COVER	1
18	2401143	DRIVE WHEEL	1
19	686375500	3/8-16 x 1/2" Hol. HEAD SET SCREW	2
20	2401130F	SHAFT	1
21		MOTOR (SEE MOTOR SHEET)	1
22	050402	BEARING NO. SFT-22 S.M.	2
23		SPROCKET W/2 SET SCREWS (SEE TABLE)	1
24	2801109S	SPROCKET W/2 SET SCREWS	1
25		CHAIN RC-50	1
26	68650300	1/2-13 x 3" SQ HEAD SET SCREW	1
27	684500125	NYLOC CAPSCREW 1/2-13 x 1-1/4"	4
28	680500200	CAPSCREW 1/2-13 x 2" W/NUT & LW	2
29	680500175	CAPSCREW 1/2-13 x 1-3/4" W/NUT & LW	2
30	480130	1/2" CUT WASHER	4
31	480096	1/2" INTERNAL SHAKEPROOF WASHER	4
32	480128	KEY 3/8 x 3/8 x 3-1/8" STRAIGHT ROUND ENDS	1
33	480132	KEY 3/8 x 3/8 x 1-1/8" STRAIGHT	1
34	2401127	DRIVE FRAME	1

	REF. 23 - PART NO. - DRIVEN SPROCKET				
Drive Speed FPM	100	125	150	175	200
Sprocket Part No.	2801109Y	2801109Z	2801109BA	2801109BB	2801109BC

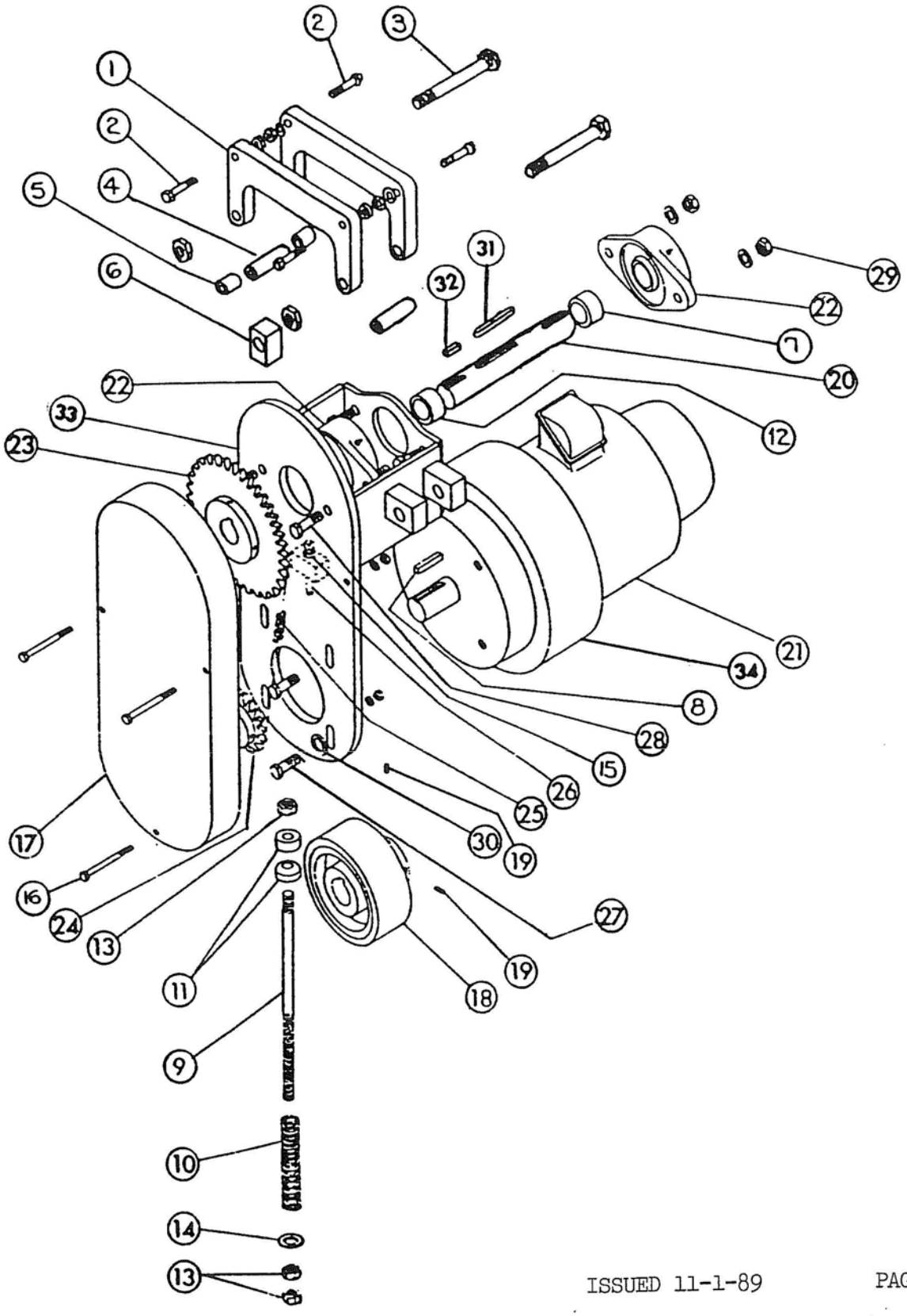
PARTS LIST
24016D
D.G. CARRIER DRIVE



PARTS LIST
24016D
D.G. CARRIER DRIVE

REF. NO.	PART NO.	DESCRIPTION	REQ"D
1	2401129	SUPPORT HANGER	2
2	680500225	CAPSCREW 1/2-13 x 2-1/4, Nut & LW	4
3	2401155C	TIE BOLT	2
4	480054	5/8-11 FLEXLOC NUT	4
5	2401118J	SPACER	2
6	2401111	ROD EYE	1
7	2401118C	SPACER	1
8	480119	KEY 1/4 x 1/4 x 1-3/4 STRAIGHT	1
9	2401115	STUD	1
10	480004	SPRING NO. 9-2432-21 DANLY	1
11	2401159	SPHERICAL WASHER SET	1
12	2401118R	SPACER	1
13	480102	3/4-10 JAM NUT	3
14	480093	3/4 S.A.E. WASHER	1
15	480106	1/2" JAM NUT	1
16	680250300	CAPSCREW 1/4-20 x 3" W/Nut & LW	3
17	2401116	CHAIN COVER	1
18	2401143	DRIVE WHEEL	1
19	686375500	3/8-16 x 1/2" HOL HEAD SET SCREW	2
20	2401131E	SHAFT	1
21		MOTOR (SEE MOTOR SHEET)	1
22	050402	BEARING NO. SFT-22 S.M.	3
23		SPROCKET W/2 SET SCREWS (SEE TABLE)	1
24	2801106E	SPROCKET W/2 SET SCREWS	1
25		CHAIN RC-50	1
26	686500500	1/2-13 X 5 TAP BOLT	1
27	680375175	CAPSCREW 3/8-16 x 1-3/4 W/NUT & LW	4
28	680500200	CAPSCREW 1/2-13 x 2" W/NUT & LW	2
29	680500175	CAPSCREW 1/2-13 x 1-3/4" W/NUT & LW	4
30	490140	3/8" CUT WASHER	4
31	480128	KEY 3/8 x 3/8 x 3-1/8" STRAIGHT ROUND ENDS	1
32	480132	KEY 3/8 x 3/8 x 1-1/8" STRAIGHT	1
33	2401171	DRIVE FRAME	1
34	6400600	MASTER XL REDUCER	1

	REF. 23 - PART NO. - DRIVEN SPROCKET				
Drive Speed FPM	100	125	150	175	200
Sprocket Part No.	2801109Y	2801109Z	2801109BA	2801109BB	2801109BC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PARTS LIST
24017-C
D.G. CARRIER DRIVE

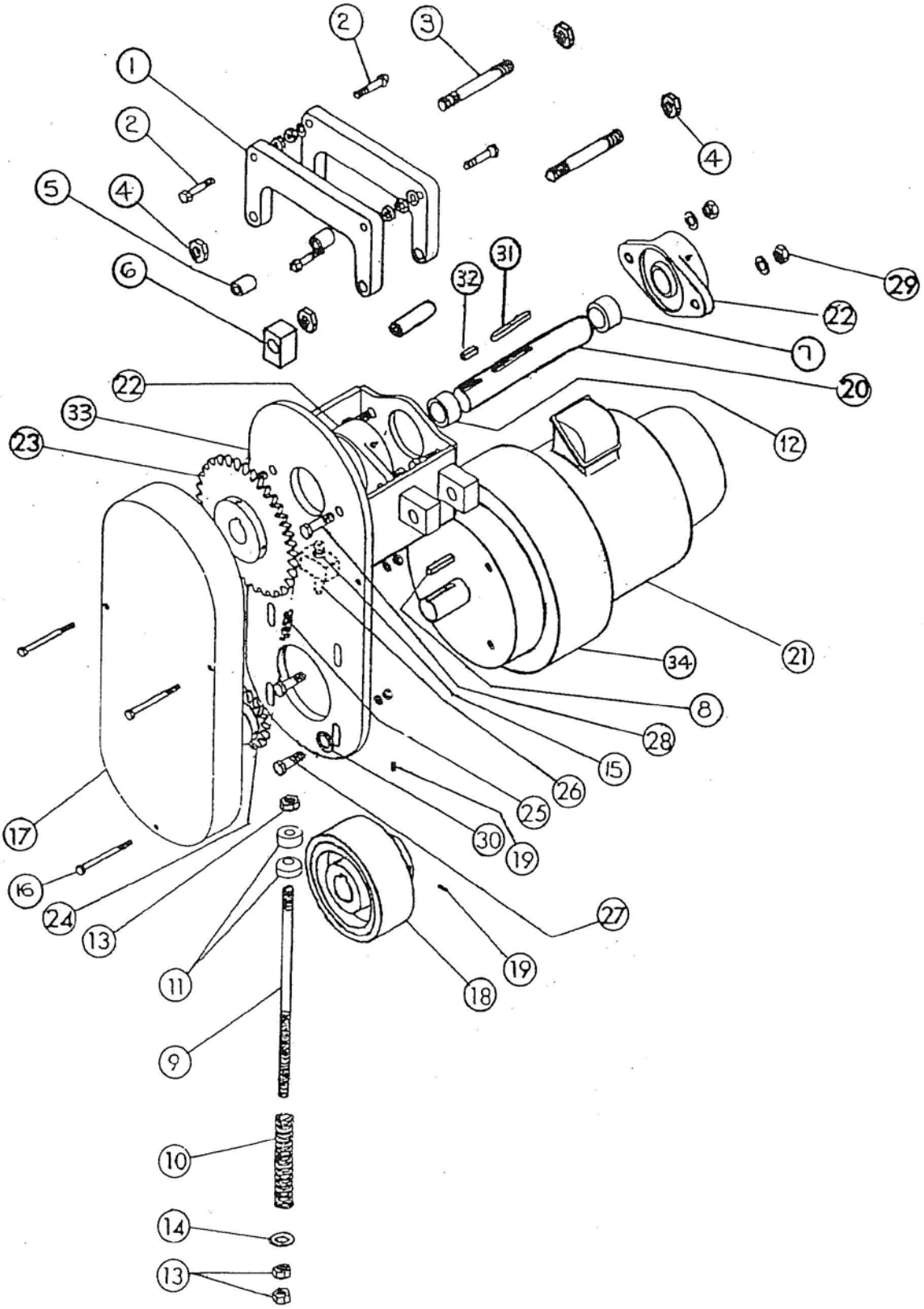
REF. NO.	PART NO.	DESCRIPTION	REQ'D
1	2401129	SUPPORT HANGER	2
2	680500225	CAPSCREW 1/2-13 x 2-1/4, Nut & LW	4
3	680625750	C.S. 5/8 x 7-1/2 W/Nut & Intl. Shakeproof LW	2
4	2401114	SPACER	2
5	2401118H	SPACER	2
6	2401111	ROD EYE	1
7	2401118F	SPACER	1
8	480119	KEY 1/4 x 1/4 x 1-3/4 STRAIGHT	1
9	2401115	STUD	1
10	480004	SPRING NO. 9-2432-21 DANLY	1
11	2401159	SPHERICAL WASHER SET	1
12	2401118S	SPACER	1
13	480102	3/4-10 JAM NUT	3
14	480093	3/4 S.A.E. WASHER	1
15	480106	1/2" HEX NUT	1
16	680250300	CAPSCREW 1/2-20 x 3" W/Nut & LW	3
17	2401116	CHAIN COVER	1
18	2401143	DRIVE WHEEL	1
19	686375500	3/8-16 x 1/2" Hol. Hd SET SCREW	2
20	2401130F	SHAFT	1
21		MOTOR (SEE MOTOR SHEET)	1
22	050402	BEARING NO. SFT-22 S.M.	2
23		SPROCKET W/2 SET SCREWS (SEE TABLE)	1
24	2801106E	SPROCKET W/2 SET SCREWS	1
25		CHAIN RC-50	1
26	686500500	1/2-13 x 5" TAP BOLT	1
27	680375175	CAPSCREW 3/8-16 x 1-3/4 W/Nuts & LW	4
28	680500200	CAPSCREW 1/2-13 x 2" W/Nut & LW	2
29	680500175	CAPSCREW 1/2-13 x 1-3/4" W/Nut & LW	2
30	480140	3/8" CUT WASHER	4
31	480128	KEY 3/8 x 3/8 x 3-1/8" STRAIGHT ROUND ENDS	1
32	480132	KEY 3/8 x 3/8 x 1-1/8" STRAIGHT	1
33	2401170	DRIVE FRAME	1
34	6400600	MASTER XL REDUCER	1

	REF. 23 - PART NO. - DRIVEN SPROCKET				
Drive Speed FPM	100	125	150	175	200
Sprocket Part No.	2801109Y	2801109Z	2801109BA	2801109BB	2801109BC

PARTS LIST

24016 TRACTOR

WITH 56C FRAME MOTOR
AND TEXTRON REDUCER



PARTS LIST

24016 TRACTOR

WITH 56C FRAME MOTOR
AND TEXTRON REDUCER

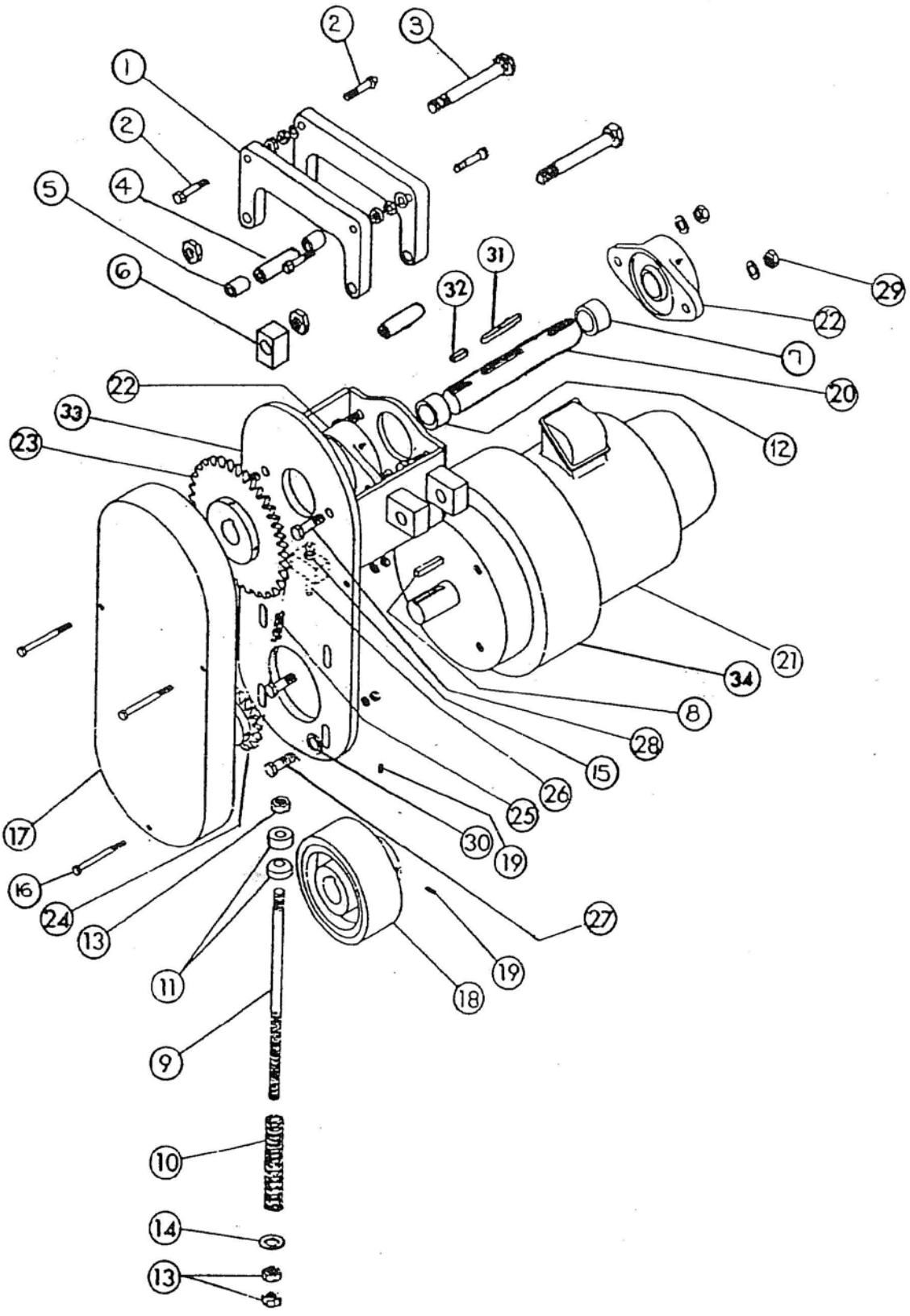
REF. NO.	PART NO.	DESCRIPTION	QTY.
1	2401129	SUPPORT HANGER	2
2	680500225	CAPSCREW 1/2-13 X 2 1/4 - NUT & LW	4
3	2401155C	TIE BOLT	2
4	480054	5/8-11 FLEXLOC NUT	4
5	2401118J	SPACER	2
6	2401111	ROD EYE	1
7	2401118C	SPACER	1
8	480119	KEY 1/4 X 1/4 X 1 3/4" STRAIGHT	1
9	2401115	STUD	1
10	480004	SPRING NO. 9-2432-21 DANLY	1
11	2401159	SPHERICAL WASHER SET	1
12	2401118R	SPACER	1
13	480102	3/4-10 JAM NUT	3
14	480093	3/4 SAE WASHER	1
15	480106	1/2" JAM NUT	1
16	680250300	CAPSCREW 1/4-20 X 3" W/NUT & LW	3
17	2401116	CHAIN COVER	1
18	2401143	DRIVE WHEEL	1
19	686375500	3/8-16 X 1/2 HOL. HD. SET SCREW	2
20	2401131E	SHAFT	1
21		MOTOR (SEE MOTOR SHEET)	1
22	050402	BEARING SFT-22 S.M.	3
23		SPROCKET (SEE TABLE) WITH SET SCREWS	1
24	2801106E	SPROCKET WITH SET SCREWS	1
25		CHAIN RC50	1
26	686500450	1/2-13 X 4 1/2 HEX HD. TAP BOLT	1
27	680375175	CAPSCREW 3/8-16 X 1 3/4" W/NUT & LW	4
28	680500200	CAPSCREW 1/2-13 X 2" W/NUT & LW	2
29	680500175	CAPSCREW 1/2-13 X 1 3/4" W/NUT & LW	4
30	480140	3/8" CUT WASHER	4
31	480128	KEY 3/8 X 3/8 X 3 1/8" STR. RD. ENDS	1
32	480132	KEY 3/8 X 3/8 X 1 1/8" STRAIGHT	1
33	2401171	DRIVE FRAME	1
34	6400601	TEXTRON REDUCER	1

	REF. 23 - PART NO. - DRIVEN SPROCKET				
DRIVE SPEED FPM	100	125	150	175	200
SPROCKET PART NO.	2801109Y	2801109Z	2801109BA	2801109BB	2801109BC

PARTS LIST

24017 TRACTOR

WITH 56C FRAME MOTOR
AND TEXTRON REDUCER



PARTS LIST

24017 TRACTOR

WITH 56C FRAME MOTOR
AND TEXTRON REDUCER

REF. NO.	PART NO.	DESCRIPTION	QTY.
1	2401129	SUPPORT HANGER	2
2	680500225	CAPSCREW 1/2-13 X 2 1/4 - NUT & LW	4
3	680625750	CAPSCREW 5/8 X 7 1/2 W/NUT & INT. LW	2
4	2401114	SPACER	2
5	2401118H	SPACER	2
6	2401111	ROD EYE	1
7	2401118F	SPACER	1
8	480119	KEY 1/4 X 1/4 X 1 3/4" STRAIGHT	1
9	2401115	STUD	1
10	480004	SPRING NO. 9-2432-21 DANLY	1
11	2401159	SPHERICAL WASHER SET	1
12	2401118S	SPACER	1
13	480102	3/4-10 JAM NUT	3
14	480093	3/4 SAE WASHER	1
15	480106	1/2" JAM NUT	1
16	680250300	CAPSCREW 1/4-20 X 3" W/NUT & LW	3
17	2401116	CHAIN COVER	1
18	2401143	DRIVE WHEEL	1
19	686375500	3/8-16 X 1/2 HOL. HD. SET SCREW	2
20	2401130F	SHAFT	1
21		MOTOR (SEE MOTOR SHEET)	1
22	050402	BEARING SFT-22 S.M.	2
23		SPROCKET (SEE TABLE) WITH SET SCREWS	1
24	2801106E	SPROCKET WITH SET SCREWS	1
25		CHAIN RC50	1
26	686500450	1/2-13 X 4 1/2 HEX HD. TAP BOLT	1
27	680375175	CAPSCREW 3/8-16 X 1 3/4" W/NUT & LW	4
28	680500200	CAPSCREW 1/2-13 X 2" W/NUT & LW	2
29	680500175	CAPSCREW 1/2-13 X 1 3/4" W/NUT & LW	2
30	480140	3/8" CUT WASHER	4
31	480128	KEY 3/8 X 3/8 X 3 1/8" STR. RD. ENDS	1
32	480132	KEY 3/8 X 3/8 X 1 1/8" STRAIGHT	1
33	2401171	DRIVE FRAME	1
34	6400601	TEXTRON REDUCER	1

	REF. 23 - PART NO. - DRIVEN SPROCKET				
DRIVE SPEED FPM	100	125	150	175	200
SPROCKET PART NO.	2801109Y	2801109Z	2801109BA	2801109BB	2801109BC

GENERAL

24016 and 24017 TRACTOR DRIVES PROPEL DOUBLE GIRDER CARRIERS. TWO DRIVERS ARE USED - ONE MOUNTED IN EACH CARRIER END TRUCK. EACH DRIVE IS POWERED BY A DOUBLE REDUCTION HELICAL GEARMOTOR WITH A ROLLER CHAIN FINAL REDUCTION BETWEEN THE REDUCER AND DRIVE WHEEL SHAFT.

THESE DRIVES HAVE A 6" DIAMETER POLYURETHANE DRIVE WHEELS. TRACTION IS OBTAINED BY THE DRIVE WHEEL BEARING AGAINST THE BOTTOM OF THE GIRDER. PRESSURE IS APPLIED BY COMPRESSION SPRINGS AND IS ADJUSTABLE.

INSTALLATION

24016 and 24017 DRIVES ARE USUALLY FACTORY INSTALLED. IN SOME INSTANCES WHERE DRIVES ARE MOUNTED IN THE FIELD, TRACTOR ASSEMBLIES SHOULD BE CAREFULLY INSPECTED FOR DAMAGE, THEN THE ASSEMBLED UNITS INSTALLED BETWEEN CARRIER END TRUCK CHANNELS. MOUNTING HOLES (9/16" DIA.) SHOULD BE DRILLED IN TRUCK CHANNELS FOR ATTACHING THE DRIVE SUPPORT HANGERS. (SEE FIG. -1 BELOW)

ADJUSTMENT FOR PROPER DRIVE WHEEL PRESSURE IS ACCOMPLISHED BY TIGHTENING THE LOWER JAM NUTS ON THE THREADED ADJUSTING STUD COMPRESSING THE SPRING TO A NOMINAL SETTING OF 6 INCHES. (SEE FIG-1 BELOW)

THIS SPRING ADJUSTMENT IS EQUIVALENT TO APPROXIMATELY 413 POUNDS PRESSURE ON DRIVE WHEEL.

CONNECT MOTOR LEADS TO LINE OF PROPER VOLTAGE AS STAMPED ON MOTOR NAME PLATE: CHECK VOLTAGE, FREQUENCY, PHASE, ETC. CONNECTION DIAGRAM WILL BE FOUND IN TERMINAL BOX OR ON MOTOR NAME PLATE.

MAINTENANCE

OCCASIONAL READJUSTMENT OF TRACTOR ADJUSTMENT SPRING SHOULD BE MADE TO COMPENSATE FOR DRIVE WHEEL WEAR AND TO MAINTAIN THE PROPER PRESSURE BETWEEN THE GIRDER AND DRIVE WHEEL.

WHEN THE TIRE WEAR REDUCES THE DIAMETER OF THE WHEEL BY 1/2 INCH OR MORE - REPLACEMENT OF WHEEL IS ESSENTIAL.

LUBRICATION

GREASE FITTINGS ARE PROVIDED ON BEARINGS CARRYING THE DRIVE SHAFT AND IT IS RECOMMENDED THAT THESE BEARINGS BE LUBRICATED PERIODICALLY WITH ALEMITE NO. 38 GREASE OR EQUAL.

PROPER OIL LEVEL MUST BE MAINTAINED IN GEARCASE AT ALL TIMES. FREQUENT INSPECTIONS WITH THE UNIT NOT RUNNING SHOULD BE MADE. SEE GEAR REDUCER INSTRUCTION MANUAL FOR MAINTENANCE AND RECOMMENDED LUBRICANTS.

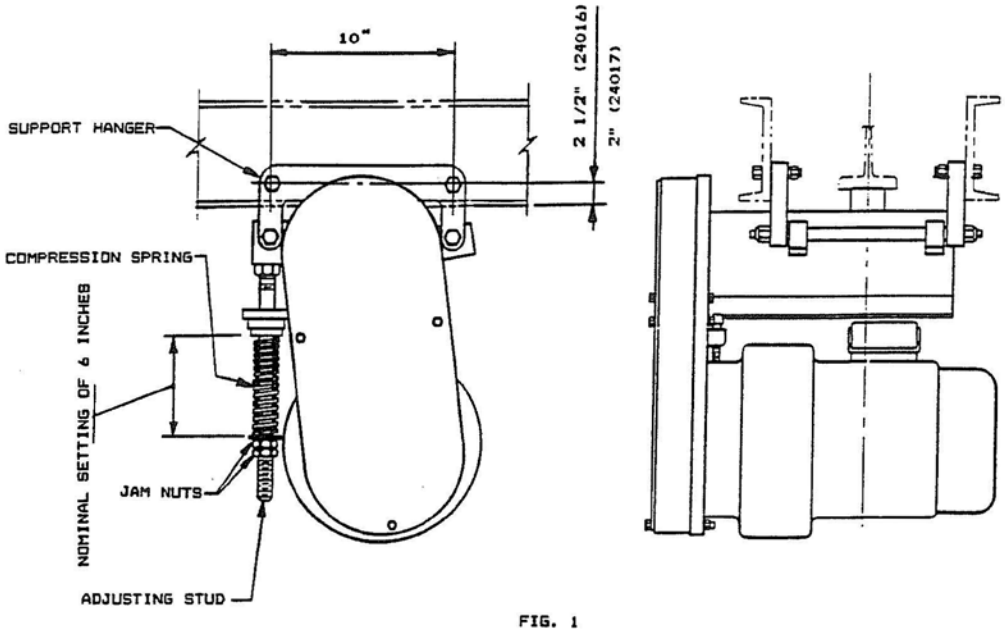


FIG. 1

GENERAL

24011 TRACTOR DRIVE PROPEL DOUBLE GIRDER CARRIERS WITH 4 WHEEL END TRUCKS. IT CONSIST OF A DRIVE ASSEMBLY MOUNTED IN ONE END TRUCK WHICH IS CONNECTED BY A DOUBLE UNIVERSAL JOINT ASSEMBLY TO AN IDLER ASSEMBLY IN THE OTHER END TRUCK. THE DRIVE ASSEMBLY IS POWERED BY A DOUBLE REDUCTION HELICAL GEARMOTOR WITH A ROLLER CHAIN FINAL REDUCTION BETWEEN THE REDUCER AND DRIVE WHEEL SHAFT.

THIS DRIVE HAS 6" DIAMETER POLYURETHANE DRIVE WHEELS. TRACTION IS OBTAINED BY THE DRIVE WHEELS BEARING AGAINST THE BOTTOM OF THE GIRDERS. PRESSURE IS APPLIED BY COMPRESSION SPRINGS AND IS ADJUSTABLE.

INSTALLATION

24011 TRACTOR DRIVES ARE USUALLY FACTORY INSTALLED. IN SOME INSTANCES WHERE DRIVES ARE MOUNTED IN THE FIELD, TRACTOR ASSEMBLIES SHOULD BE CAREFULLY INSPECTED FOR DAMAGE, THEN DRIVE AND IDLER ASSEMBLIES INSTALLED BETWEEN CARRIER END TRUCK CHANNELS. MOUNTING HOLES (9/16" DIA.) SHOULD BE DRILLED IN END TRUCK CHANNELS FOR ATTACHING THE DRIVE SUPPORT HANGERS. (SEE FIG. -1 BELOW)

ADJUSTMENT FOR PROPER DRIVE WHEEL PRESSURE IS ACCOMPLISHED BY TIGHTENING THE LOWER JAM NUTS ON THE THREADED ADJUSTING STUDS COMPRESSING THE SPRINGS TO A NOMINAL SETTING OF 6 INCHES. (SEE FIG. -1 BELOW)

THIS SPRING ADJUSTMENT IS EQUIVALENT TO APPROXIMATELY 413 POUNDS PRESSURE ON DRIVE WHEEL.

CONNECT MOTOR LEADS TO LINE OF PROPER VOLTAGE AS STAMPED ON MOTOR NAME PLATE: CHECK VOLTAGE, FREQUENCY, PHASE, ETC. CONNECTION DIAGRAM WILL BE FOUND IN TERMINAL BOX OR ON MOTOR NAME PLATE.

MAINTENANCE

OCCASIONAL READJUSTMENT OF TRACTOR ADJUSTMENT SPRINGS SHOULD BE MADE TO COMPENSATE FOR DRIVE WHEEL WEAR AND TO MAINTAIN PROPER PRESSURE BETWEEN THE GIRDERS AND DRIVE WHEELS.

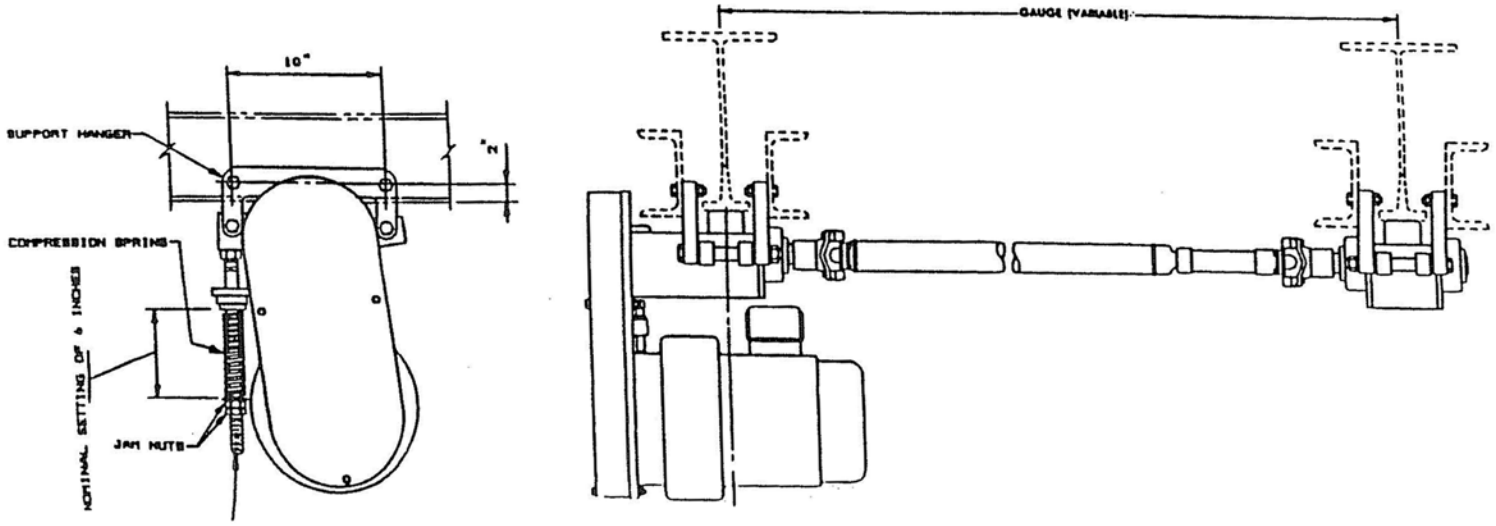
WHEN THE TIRE WEAR REDUCES THE DIAMETER OF THE WHEELS BY 1/2 INCH OR MORE - REPLACEMENT OF WHEELS ARE ESSENTIAL.

LUBRICATION

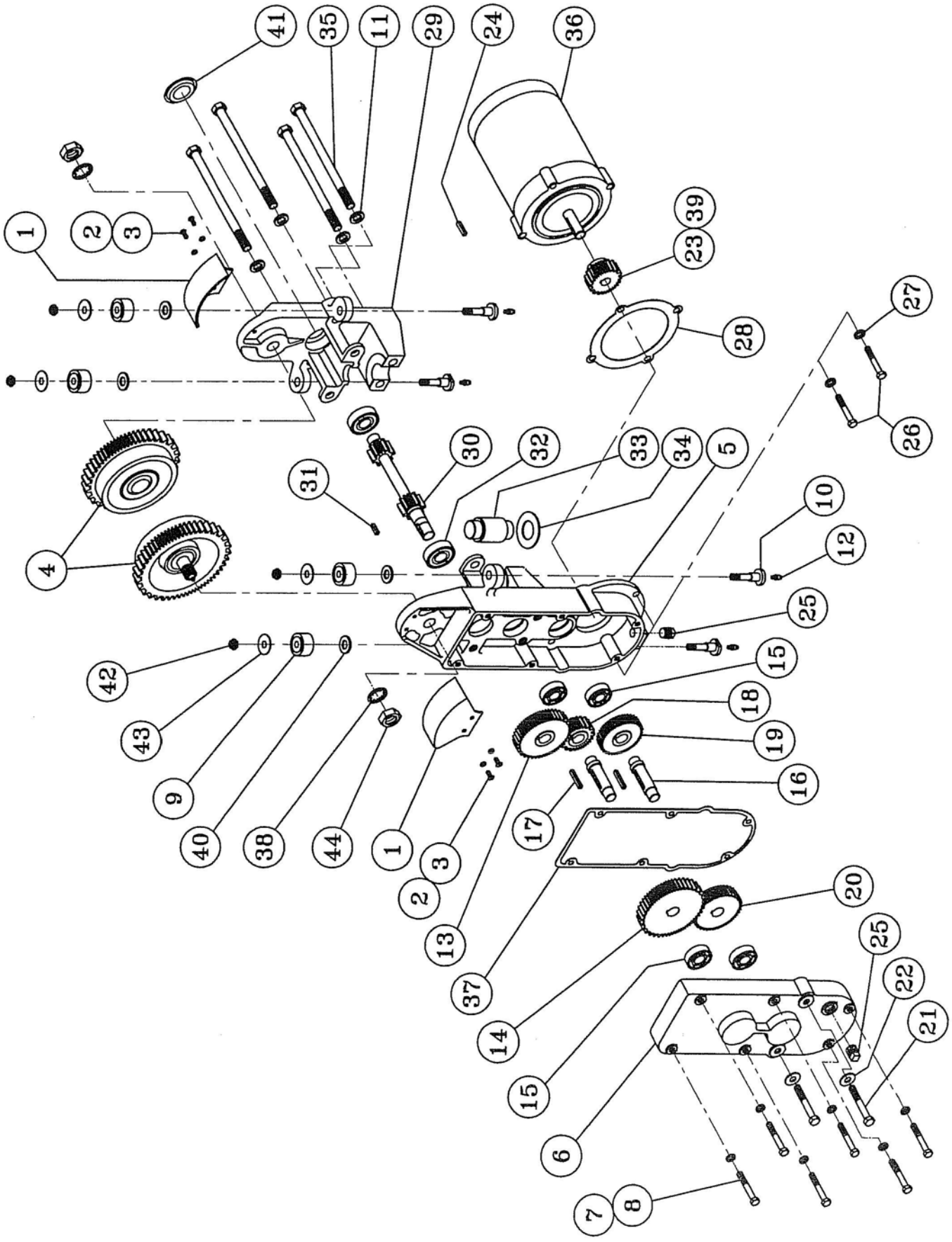
GREASE FITTINGS ARE PROVIDED ON BEARINGS CARRYING DRIVE SHAFTS AND ON UNIVERSAL JOINTS AND SLIP YOKE ON SQUARING SHAFT.

IT IS RECOMMENDED THAT THESE POINTS BE LUBRICATED PERIODICALLY WITH ALEMITE NO. 38 GREASE OR EQUAL.

PROPER OIL LEVEL MUST BE MAINTAINED IN GEARCASE AT ALL TIMES. FREQUENT INSPECTIONS WITH UNIT NOT RUNNING SHOULD BE MADE. SEE REDUCER INSTRUCTION MANUAL FOR MAINTENANCE AND RECOMMENDED LUBRICANTS.



2601 GEARED HEAD DRIVE



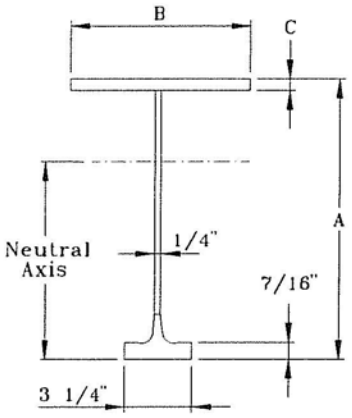
REF. NO.	PART NO.	DESCRIPTION	QTY.
1	2601013	DEBRIS SHIELD	2
2	480145	#10-24 NC X 1/2 MACH. SCREW	4
3	480146	#10 LOCKWASHER	4
4	010273	GEARED WHEEL ASSY.	2
5	2601000	GEARCASE	1
6	2601001	GEARCASE COVER	1
7	680312225	5/16-18 X 2 1/4 CAP SCREW	6
8	480147	5/16 LOCKWASHER	6
9	050304	CAM FOLLOWER	4
10	2601011	GUIDE ROLLER SHAFT	4
11	480105	1/2" LOCKWASHER	4
12	480023	LUBE FITTING	4
13	SEE TABLE PG. 3	DRIVEN GEAR NO. 6	1
14	SEE TABLE PG. 3	DRIVEN GEAR NO. 4	1
15	050012	BEARING	4
16	2601005	INTERMEDIATE SHAFT	2
17	480139	3/16 X 3/16 X 1 3/8 KEY	2
18	SEE TABLE PG. 3	INTERMEDIATE PINION NO. 5	1
19	SEE TABLE PG. 3	DRIVEN GEAR NO. 2	1
20	SEE TABLE PG. 3	INTERMEDIATE PINION NO. 3	1
21	680375425	3/8-16 X 4 1/4 CAP SCREW	2
22	480148	1/16"THK. X 1" COPPERWASHER	2
23	SEE TABLE PG. 3	MOTOR PINION NO. 1	1
24	480138	3/16 X 3/16 X 1" KEY	1
25	480134	3/8 PIPE PLUG	2
26	680375100	3/8-16 X 1" CAP SCREW	2
27	480124	3/8 LOCKWASHER	2
28	2601014	MOTOR GASKET	1
29	0102046	SIDE FRAME	1
30	2601006	DRIVE PINION SHAFT	1
31	480149	3/16 X 3/16 X 3/4" KEY	1
32	050011	BEARING	2
33	0102050	TRUNNION	1
34	010100104	WASHER	1
35	680500800	1/2-13 X 8 CAP SCREW	4
36		MOTOR	1
37	2601012	GASKET	1
38	480094	3/4 INTERNAL LOCKWASHER	2
39	686190375	10-32 X 3/8 HOL. HD. SS	2
40	480150	1/2" SAE WASHER	4
41	6102093	CAPLUG	1
42	480046	3/8-16 FLEXLOC NUT	4
43	2601020	GUIDE ROLLER SHIELD	4
44	480114	3/4-16 JAM NUT	2

200	26010200	2601008F	26	2601010K	44	2601010J	40	2601010H	39	2601009D	24	2601010G	36
175	26010175	2601008E	24	2601010L	46	2601010J	40	2601010H	39	2601009D	24	2601010G	36
150	26010150	2601008F	26	2601010K	44	2601009F	35	2601010K	44	2601009D	24	2601010G	36
130	26010130	2601008E	24	2601010L	46	2601009F	35	2601010K	44	2601009D	24	2601010G	36
100	26010100	2601008E	24	2601010L	46	2601009F	35	2601010K	44	2601009C	20	2601010J	40
75	26010075	2601008E	24	2601010L	46	2601009E	30	2601010M	49	2601009C	20	2601010J	40
NOMINAL SPEED F.P.M.	GEAR SET	PART NO.	NO. TEETH	PART NO.	NO. TEETH	PART NO.	NO. TEETH	PART NO.	NO. TEETH	PART NO.	NO. TEETH	PART NO.	NO. TEETH
	PART NO.	MOTOR PINION NO.1		DRIVEN GEAR NO.2		INTERMEDIATE GEAR NO.3		DRIVEN GEAR NO.4		INTERMEDIATE GEAR NO.5		DRIVEN GEAR NO.6	

LIGHT RAIL SECTIONS

Nos. 34011 through 34031 light rail sections are used for runway and monorail tracks and bridge girders. Dimensions and section properties are shown in the tables.

Nos. 34011 and 34016 tracks are manufactured in stock lengths of 41 feet. All other light rail tracks are manufactured in stock lengths of 41, 50 and 60 feet. They are cut to length and fabricated in any length up to the maximum stock length.



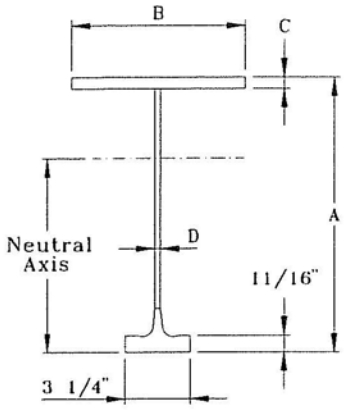
Item Number	Nominal Size and Weight	A	B	C
34011	8 @ 15.9	8-1/16	4	5/16
34016	8-1/2 @ 19.4	8-9/16	5	7/16
34021	10 @ 22.2	10-1/16	6	7/16
34026	11-1/2 @ 26.3	11-9/16	7	1/2
34031	13 @ 29.3	13-1/16	8	1/2

Item Number	Maximum Wheel Dia.(In.)	Area (In.X2)	Section Modulus (In.X3)		Moment of Interia (In.X4)	Neutral Axis (In.)
			Tension	Compression		
34011	5	4.672	12.920	11.585	49.247	3.812
34016		5.703	14.857	18.254	70.133	4.720
34021		6.515	18.799	25.656	109.171	5.807
34026		7.750	23.298	37.568	166.270	7.137
34031		8.625	27.924	48.310	231.148	8.278

HEAVY RAIL SECTIONS

No. 34037 and Nos. 34041 through 34066 heavy rail sections are used for runway and monorail tracks and bridge girders. No. 34038 sections are used for monorail curves. Dimensions and section properties are shown in the tables.

No. 34037 and Nos. 34041 through 34056 tracks are manufactured in stock lengths of 41, 50 and 60 feet. Nos. 34061 and 34066 tracks are manufactured to order. They are cut to length and fabricated in any length up to 60 feet maximum.



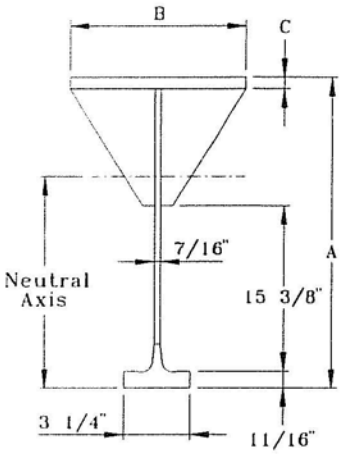
Item Number	Nominal Size and Weight	A	B	C	D
34037	12-1/2 @ 33.6	12-9/16	8	1/2	5/16
*34038	12-1/2 @ 30.2	12-9/16	6	1/2	5/16
34041	14 @ 38.5	14-1/16	8	5/8	5/16
34046	16 @ 42.7	16-1/16	9	5/8	5/16
34051	18 @ 50.3	18-1/16	10	5/8	3/8
34056	20 @ 55.0	20-1/16	11	5/8	3/8
34061	22-1/2 @ 61.4	22-9/16	12-1/2	5/8	3/8
34066	25 @ 67.8	25-1/16	14	5/8	3/8

Item Number	Maximum Wheel Dia. (In.)	Area (In.X2)	Section Modulus (In.X3)		Moment of Inertia (In.X4)	Neutral Axis (In.)
			Tension	Compression		
34037	8	9.888	34.440	48.781	253.605	7.364
*34038		8.888	33.251	39.324	226.337	6.807
34041		11.318	40.939	65.239	353.731	8.460
34046		12.568	49.889	84.012	502.776	10.078
34051		14.802	62.307	106.516	710.066	11.396
34056		16.177	73.512	130.069	942.276	12.818
34061		18.052	88.875	165.152	1303.680	14.669
34066		19.927	105.539	204.237	1743.910	16.524

BRIDGE GIRDERS

Nos. 34071 through 34079 tracks are used primarily as bridge girders. They can be used for runway tracks but an optimum track section will generally be more economical. Dimensions and section properties are shown in the tables.

These sections are made to order. Web stiffeners are provided between the top flange and web plates.

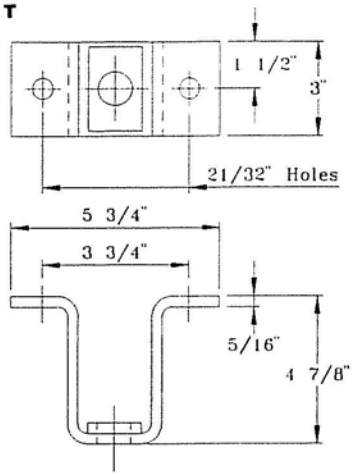


Item Number	Nominal Size and Weight	A	B	C
34071	27-1/2 @ 82.8	27-9/16	14	3/4
34076	30 @ 92.0	30-1/16	16	3/4
34077	32 @ 108.6	32	16	1
34078	36 @ 122.1	36	18	1
34079	40 @ 135.6	40	20	1

Item Number	Maximum Wheel Dia. (In.)	Area (In.X2)	Section Modulus (In.X3)		Moment of Inertia (In.X4)	Neutral Axis (In.)
			Tension	Compression		
34071	8	24.138	132.223	264.167	2428.740	18.369
34076		26.732	154.279	324.844	3144.560	20.382
34077		31.470	175.353	429.040	3983.280	22.716
34078		35.220	215.352	542.478	5549.600	25.770
34079		38.970	259.307	668.980	7474.890	28.826

SUSPENSION FITTINGS

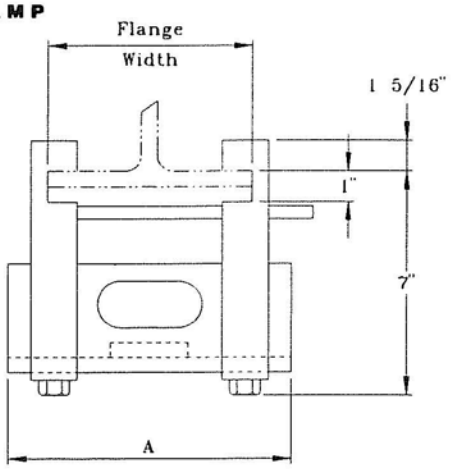
BEAM CLEAT



NO. 340101 BEAM CLEAT - 8,500 LBS. RATED LOAD

This upper fitting connects a 3/4" diameter hanger rod assembly to the support structure. Fitting includes the hardened bearing washer and two 5/8" x 2-1/2" heat treated capscrews, nuts and lock washers for bolting cleat to the support structure.

BEAM CLAMP

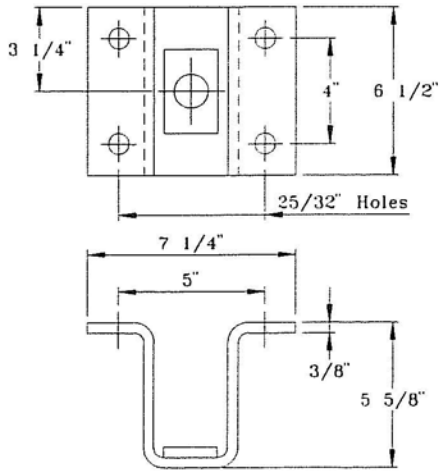


NO. 340102 BEAM CLAMP - 8,500 LBS. RATED LOAD
NO. 340103 BEAM CLAMP - 8,500 LBS. RATED LOAD
NO. 340104 BEAM CLAMP - 8,500 LBS. RATED LOAD

These upper fittings connect 3/4" diameter hanger rod assemblies to the support structure by clamping to the lower flange. Fittings include the hardened bearing washer. Clamps are adjustable for flange widths from 3-1/2" to 12-1/2" as noted in the table. Flange thickness of support structure is limited to 1" maximum. Consult factory when flange thickness exceeds 1" or flange width exceeds 12-1/2".

Clamp Cat. No.	Flange Width	A
340102	3-1/2" to 7"	9-1/2"
340103	7" to 10"	12-1/2"
340104	10" to 12-1/2"	15"

BEAM CLEAT

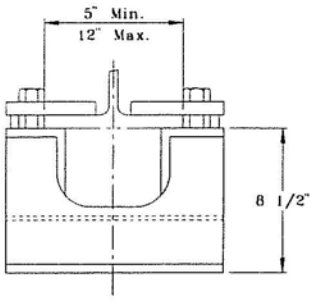


NO. 340116 BEAM CLEAT - 20,000 LBS. RATED LOAD

This upper fitting connects a 1-1/8" diameter hanger rod assembly to the support structure. Fitting includes the hardened bearing washer and four 3/4" x 2-1/2" heat treated capscrews, nuts and lock washers for bolting cleat to the support structure.

SUSPENSION FITTINGS

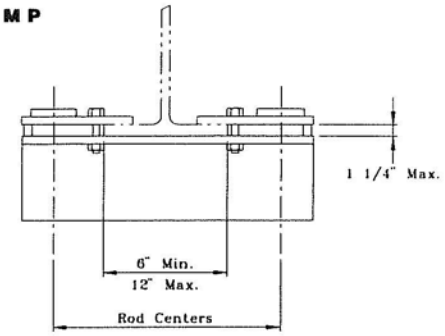
BEAM CLAMP



NO. 340117 BEAM CLAMP - 20,000 LBS. RATED LOAD

This upper fitting connects a 1-1/8" diameter hanger rod assembly to the support structure by clamping to the lower flange. Fitting includes the hardened bearing washer and attaching hardware. Flange width of support structure is limited to 5" minimum and 12" maximum.

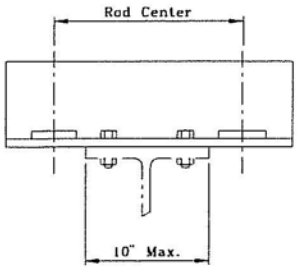
BEAM CLAMP



NO. 340105 BEAM CLAMP - 17,000 LBS. RATED LOAD
NO. 340118 BEAM CLAMP - 40,000 LBS. RATED LOAD

These upper fittings connect double hanger rod assemblies to the support structure. Fittings include hardened bearing washers and hardware for clamping fitting to the lower flange of the support structure. Hanger rod centers are determined from data on Page TT-25 for the No. 340105 clamp and Page TT-27 for the No. 340118 clamp.

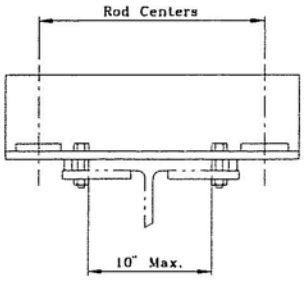
BEAM SADDLE



NO. 340106 BEAM SADDLE - 17,000 LBS. RATED LOAD
NO. 340119 BEAM SADDLE - 40,000 LBS. RATED LOAD

These upper fittings connect double hanger rod assemblies to the support structure. Fittings include hardened bearing washers and hardware for bolting fitting to the lower flange of the support structure. Hanger rod centers are determined from data on Page TT-24 for the No. 340106 saddle and Page TT-26 for the No. 340119 saddle.

BEAM SADDLE

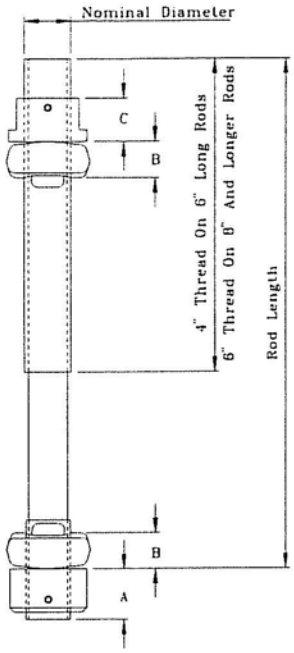


NO. 340107 BEAM SADDLE - 17,000 LBS. RATED LOAD
NO. 340120 BEAM SADDLE - 40,000 LBS. RATED LOAD

These upper fittings connect double hanger rod assemblies to the support structure. Fittings include hardened bearing washers and hardware for clamping fitting to the lower flange of the support structure. Hanger rod centers are determined from data on Page TT-25 for the No. 340107 saddle and Page TT-27 for the No. 340120 saddle.

SUSPENSION FITTINGS

HANGER ROD



NO. 340108 3/4" DIAMETER HANGER ROD - 8,500 LBS. RATED LOAD
NO. 340121 1-1/8" DIAMETER HANGER ROD - 20,000 LBS. RATED LOAD

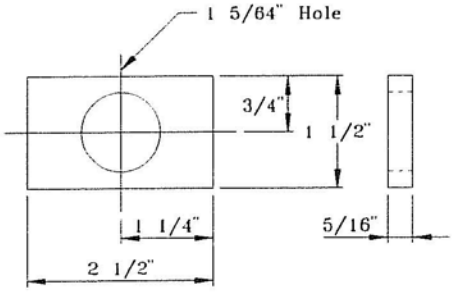
The hanger rod assembly consists of a high strength steel rod, an adjustable upper nut secured by a set screw, two gimbal washers and a lower nut factory assembled to the rod by a roll pin. The upper nut and gimbal washers are packaged separately as a kit. Rods are stocked in lengths of 6" to 20" in 2" increments. Longer rods up to 238" are available.

Rods have rolled, unified national threads. The 6" long rods have 4" thread lengths; rods 8" and longer have 6" thread lengths. The threads are protected for shipment by a plastic coating.

The hanger rod item number consists of the series number (340108 or 340121) and a suffix number indicating rod length, i.e., a 3/4" diameter rod 10" long is designated No. 340108010.

Nominal Diameter	Hanger Rod Cat. No.	Hanger Rod Kit Cat. No.	A	B	C
3/4"	340108	340109	13/16"	5/8"	3/4"
1-1/8"	340121	340122	1-1/8"	7/8"	1-1/8"

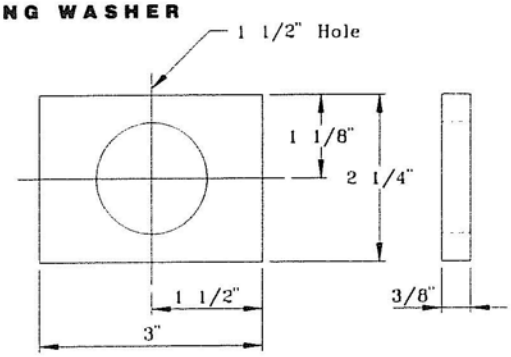
BEARING WASHER



NO. 3401011 BEARING WASHER

Bearing washers provide the hardened seat for gimbal washers when 3/4" diameter hanger rods are suspended directly through holes in the building structure. Holes in the building structure are 1-5/64" diameter. Bearing washers are always welded to the building structure; washer must be flat after welding and holes in the washer and structure concentric.

BEARING WASHER

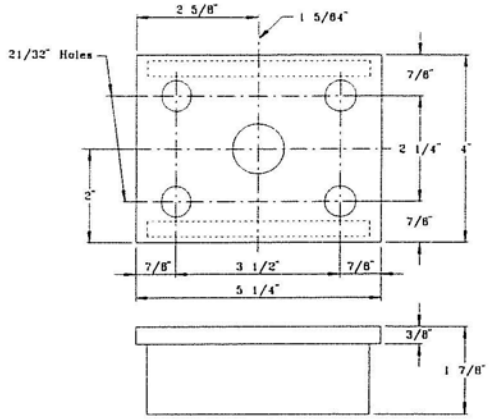


NO. 3401015 BEARING WASHER

Bearing washers provide the hardened seat for gimbal washers when 1-1/8" diameter hanger rods are suspended directly through holes in the building structure. Holes in the building structure are 1-1/2" diameter. Bearing washers are always welded to the building structure; washer must be flat after welding and holes in the washer and structure concentric.

SUSPENSION FITTINGS

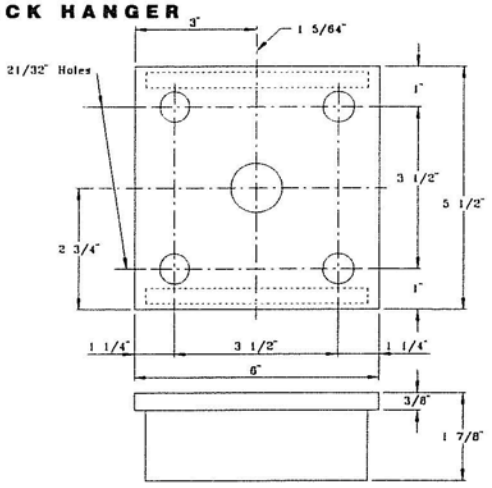
TRACK HANGER



NO. 340110 TRACK HANGER - 8,500 LBS. RATED LOAD

This fitting connects a 3/4" diameter hanger rod assembly to No. 34011 (8") track. Top plate of fitting is high carbon steel and provides a hardened bearing surface for the gimbal washer. Four 5/8" x 3-1/2" heat treated capscrews, nuts, cut washers and lock washers are furnished for bolting the hanger to the track.

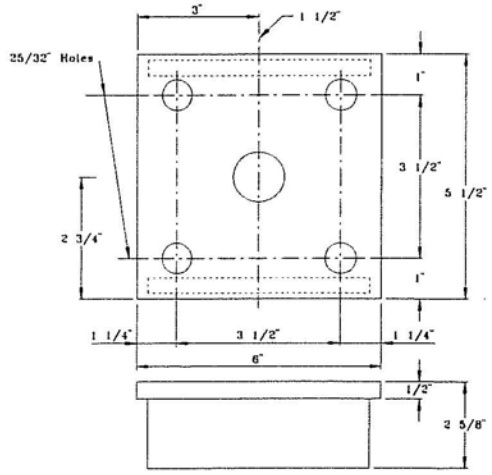
TRACK HANGER



NO. 340111 TRACK HANGER - 8,500 LBS. RATED LOAD

This fitting connects a 3/4" diameter hanger rod assembly to all sizes of track except No. 34011 (8"). Top plate of fitting is high carbon steel and provides a hardened bearing surface for the gimbal washer. Four 5/8" x 4" heat treated capscrews, nuts, cut washers and lock washers are furnished for bolting the hanger to the track.

TRACK HANGER



NO. 340123 TRACK HANGER - 20,000 LBS. RATED LOAD

This fitting connects a 1-1/8" diameter hanger rod assembly to all sizes of track except No. 34011 (8"). Top plate of fitting is high carbon steel and provides a hardened bearing surface for the gimbal washer. Four 3/4" x 5" heat treated capscrews, nuts, cut washers and lock washers are furnished for bolting hanger to the track.

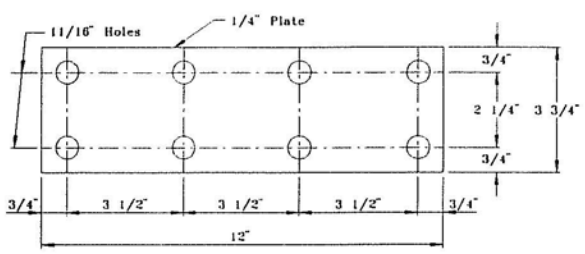
TOP SPLICE PLATES

Top splice plates stiffen the top flange of the track at splices. Bolted or welded splice plates can be furnished; however, they are generally bolted to the top flanges.

Dimensions and application of the bolted top splice plates are indicated below. Plates are bolted to the top flanges using the hardware furnished with track hangers; additional hardware, if required to complete the splice, is furnished with the plates.

Consult factory for recommendations on welded top splice plates.

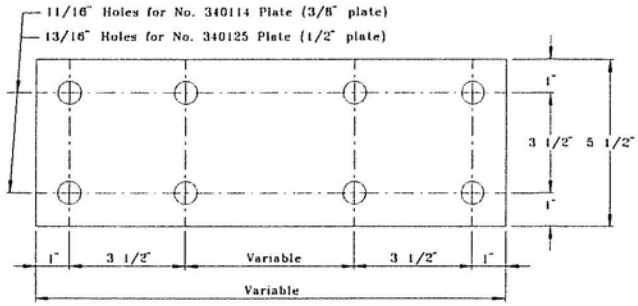
TOP SPLICE PLATE



No. 340112 3/4" ROD SUSPENSIONS

Use on No. 34011 (8") track only and for single rod suspensions.

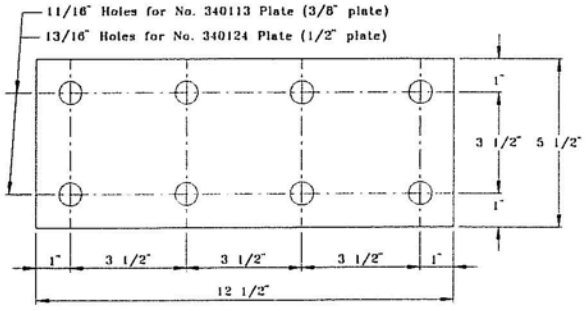
TOP SPLICE PLATE



NO. 340113 3/4" ROD SUSPENSIONS
NO. 340124 1-1/8" ROD SUSPENSIONS

Use on all track sizes except No. 34011 (8") and for single rod suspensions or double rod suspensions with rods on 7" centers.

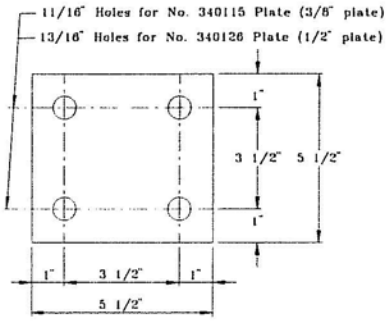
TOP SPLICE PLATE



NO. 340114 3/4" ROD SUSPENSIONS
NO. 340125 1-1/8" ROD SUSPENSIONS

Use on all track sizes except No. 34011 (8") and for double rod suspensions with rod centers greater than 7" and less than 12".

TOP SPLICE PLATE



NO. 340115 3/4" ROD SUSPENSIONS
NO. 340126 1-1/8" ROD SUSPENSIONS

Use on all track sizes except No. 34011 (8") and for double rod suspensions with rod centers 12" or greater.

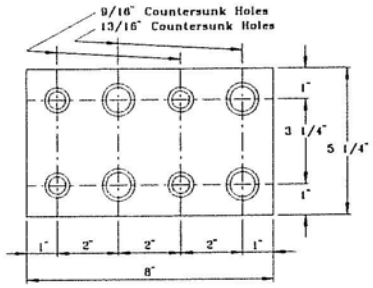
TRACK COUPLINGS

Track couplings maintain web and rail alignment at track splices. Bolted or welded couplings can be furnished. Bolted couplings provide flexibility to meet facility changes. Welded couplings are generally used on systems with high service factors.

Bolted couplings are stocked in four sizes for use with track sizes through No. 34066 (25 in.). Special socket head screws and flat head nuts are used near the rail for wheel clearance. Screws have a nylon insert to secure the nut. Standard bolts, nuts and lock washers are used in the area above the wheels. Two 3/16 in. thick plates are furnished for each coupling.

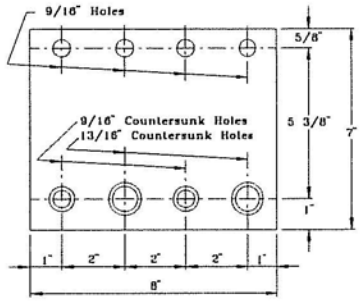
Welded couplings are made to order for each installation. Holes are provided for make-up bolts to help in aligning and leveling the tracks. Couplings are welded after tracks are aligned; make-up bolts are removed after welding. Two 3/16 in. thick plates are furnished for each coupling.

340130 TRACK COUPLING



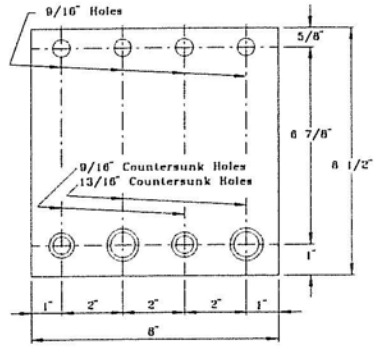
Use for coupling Nos. 34011 (8") and 34016 (8-1/2").

340131 TRACK COUPLING



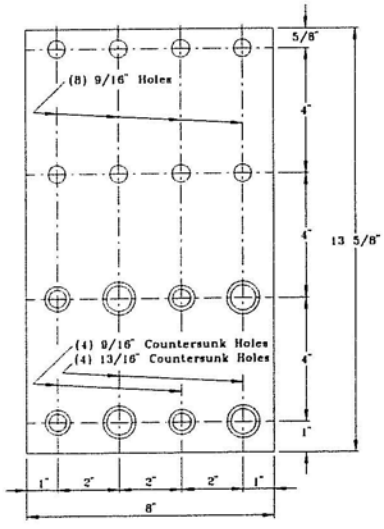
Use for coupling Nos. 34021 (10"), 34026 (11-1/2") and 34031 (13").

340132 TRACK COUPLING



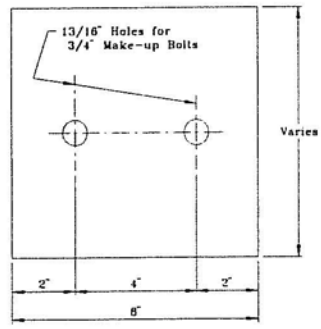
Use for coupling Nos. 34037 (12-1/2"), 34041 (14") and 34046 (16").

340133 TRACK COUPLING



Use for coupling Nos. 34051 (18"), 34056 (20"), 34061 (22-1/2") and 34066 (25").

WELDED TRACK COUPLING

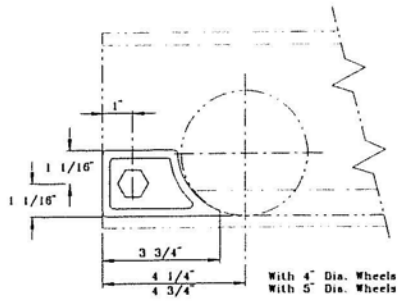


Use for coupling all sizes of track.

END STOPS

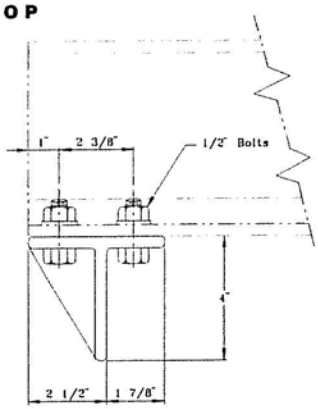
End stops are required at the ends of travel for all carriers and cranes. The cataloged stops are satisfactory for many applications. Energy absorbing stops are available for carriers and cranes rated for heavier loads and/or traveling at higher speeds and for carriers and cranes with 8 in. diameter wheels. Consult factory for recommendations on these applications.

340136 END STOP



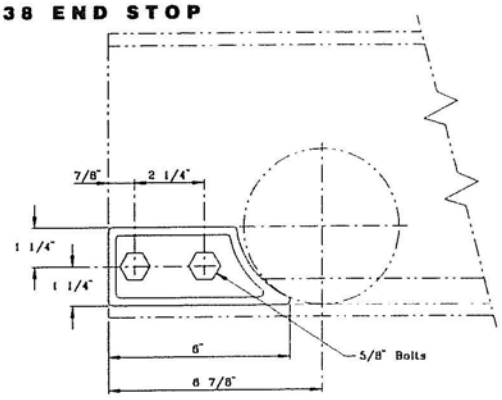
Use for hand propelled carriers and cranes with 4" or 5" diameter wheels.

340137 END STOP



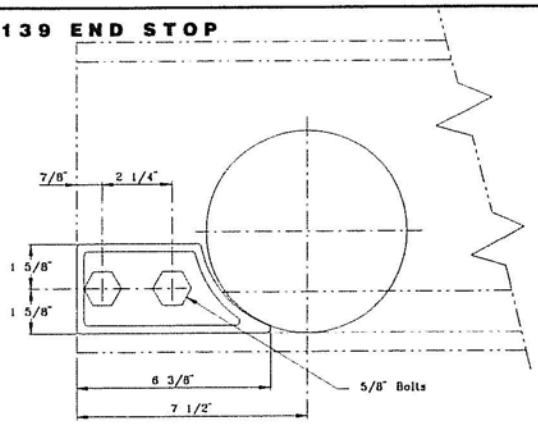
Use for hand propelled or motor driven carriers and cranes with 6-1/2" diameter wheels.

340138 END STOP



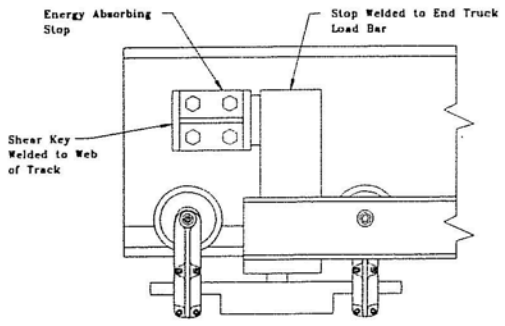
Use for hand propelled or motor driven carriers and cranes with 5" diameter wheels.

340139 END STOP

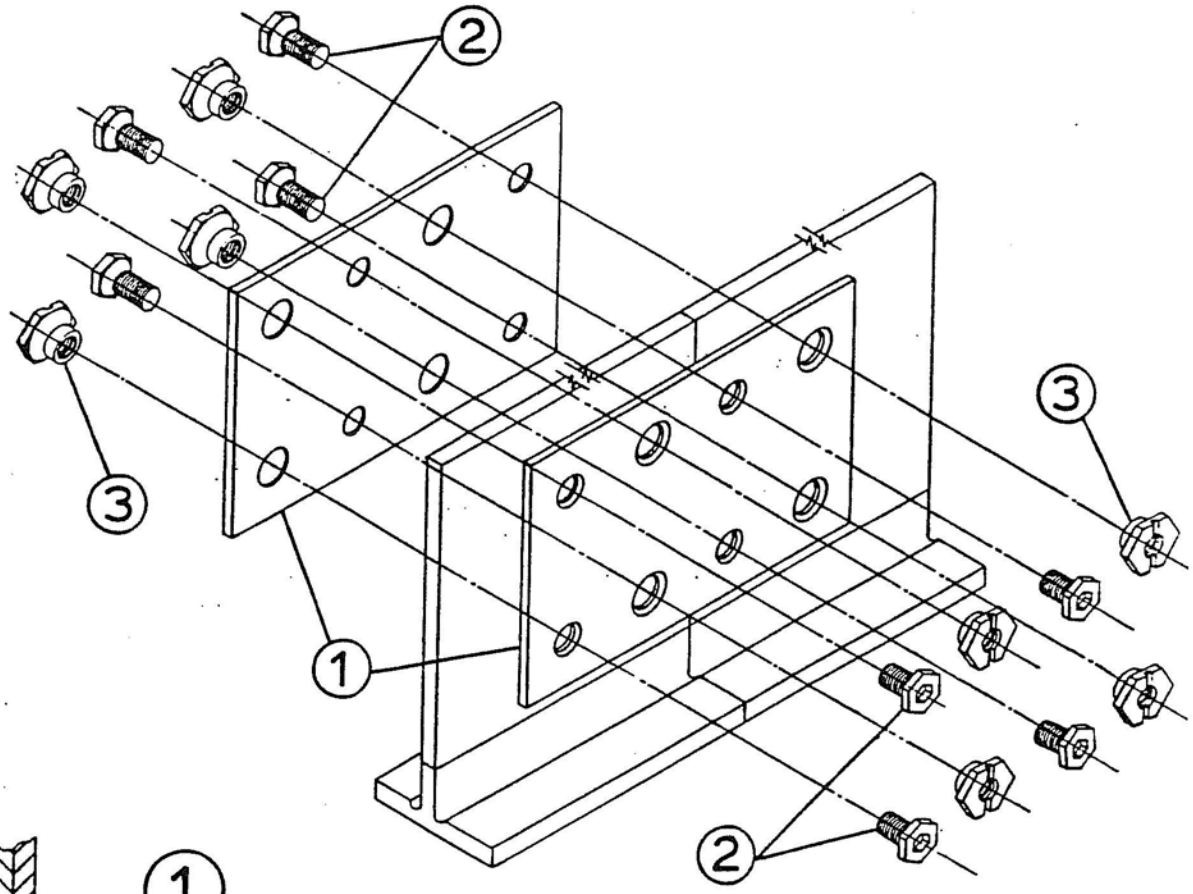


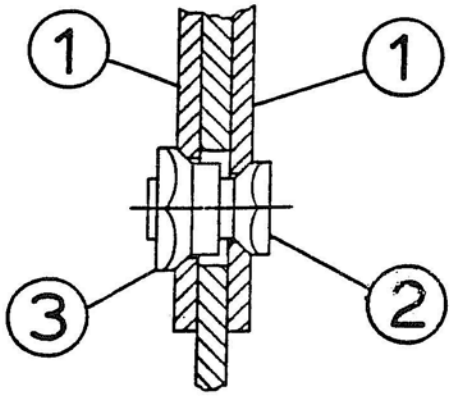
Use for hand propelled or motor driven carriers and cranes with 6-1/2" diameter wheels.

ENERGY ABSORBING STOP



The stop illustrated is one of several available. Energy is absorbed by a rubber pad bonded to the stop. Polyurethane and spring stops are also available. Consult factory for recommendations on applications requiring energy absorbing stops.

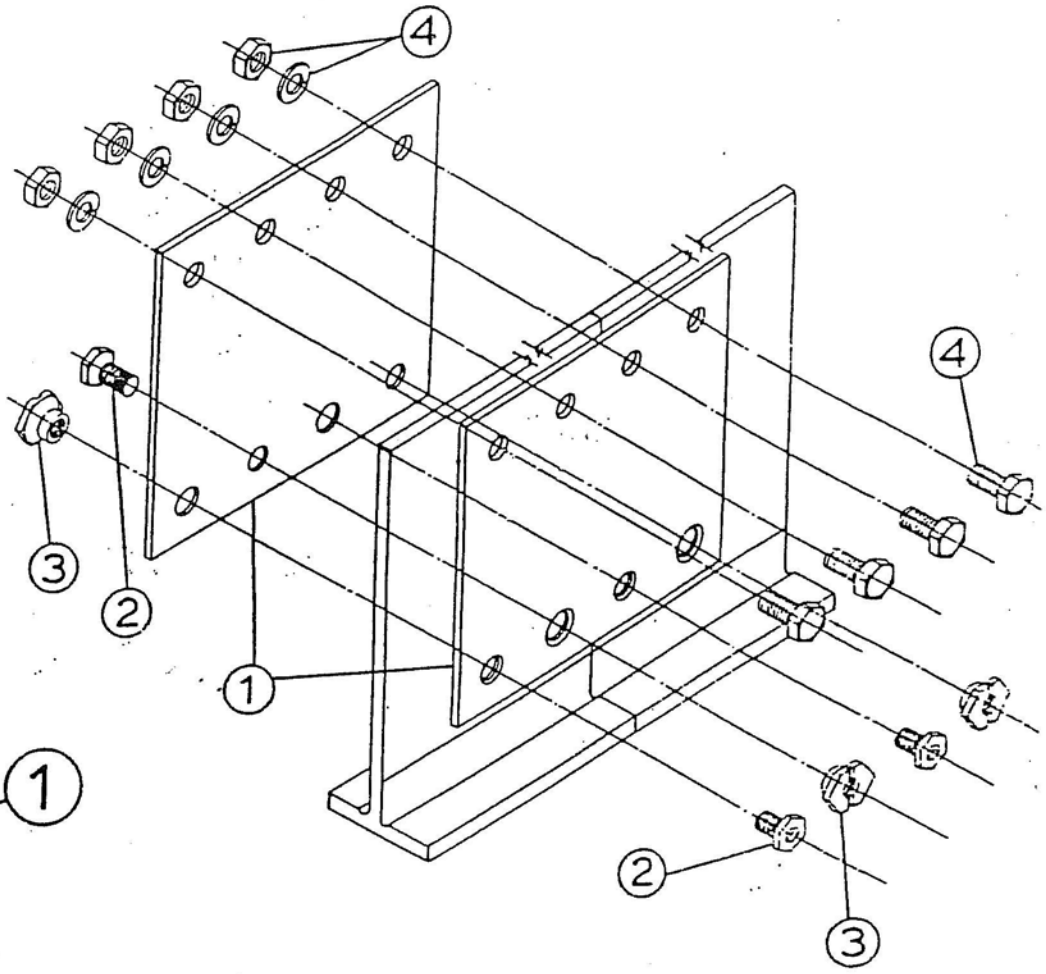


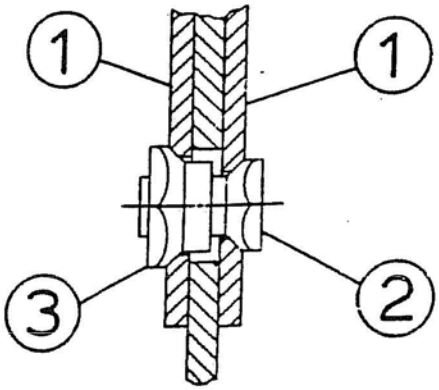


TYPICAL SECTION

REF. No.	PART NO.	DESCRIPTION	QTY
1	3401020	COUPLING PLATE	2
2	3401025	SPECIAL SCREW	8
3	3401024	SPECIAL NUT	8

PARTS LIST
340131 TRACK COUPLING



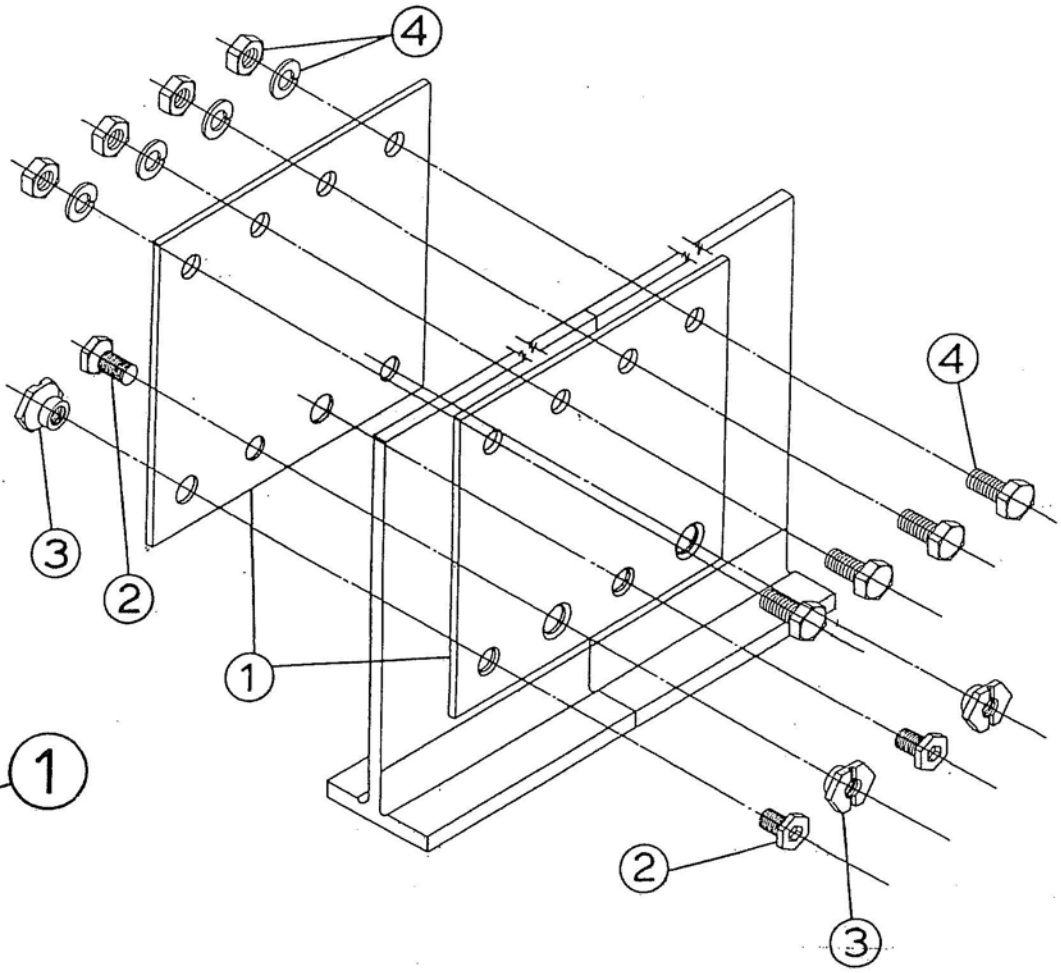


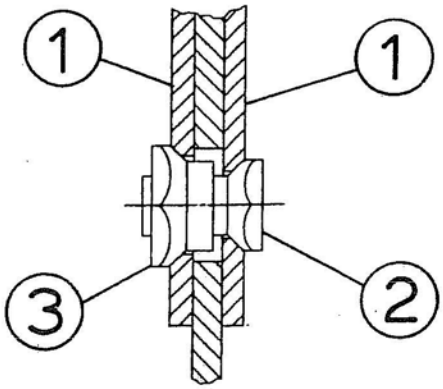
TYPICAL SECTION

REF. NO.	PART NO.	DESCRIPTION	QTY
1	3401021	COUPLING PLATE	2
2	3401025	SPECIAL SCREW	4
3	3401024	SPECIAL NUT	4
4	680500150	1/2 X 1-1/2 CS-N-LW	4

PARTS LIST

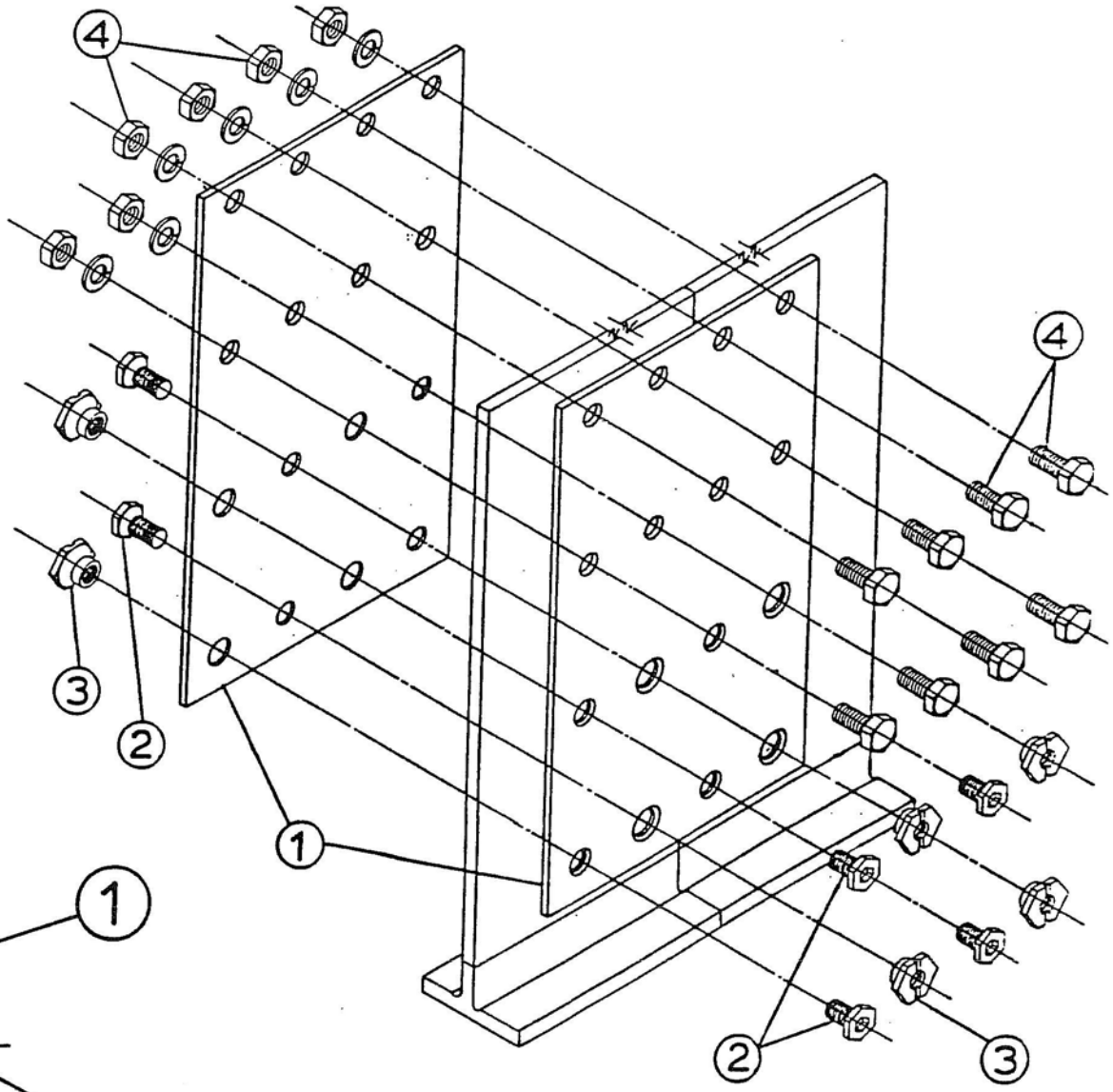
340132 TRACK COUPLING

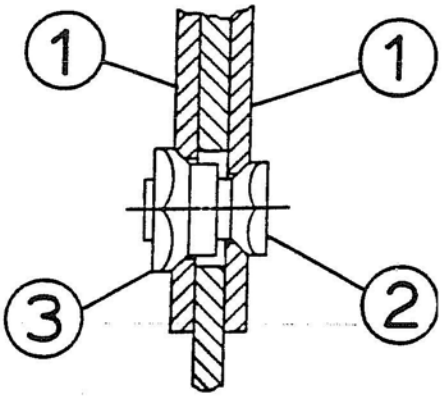




TYPICAL SECTION

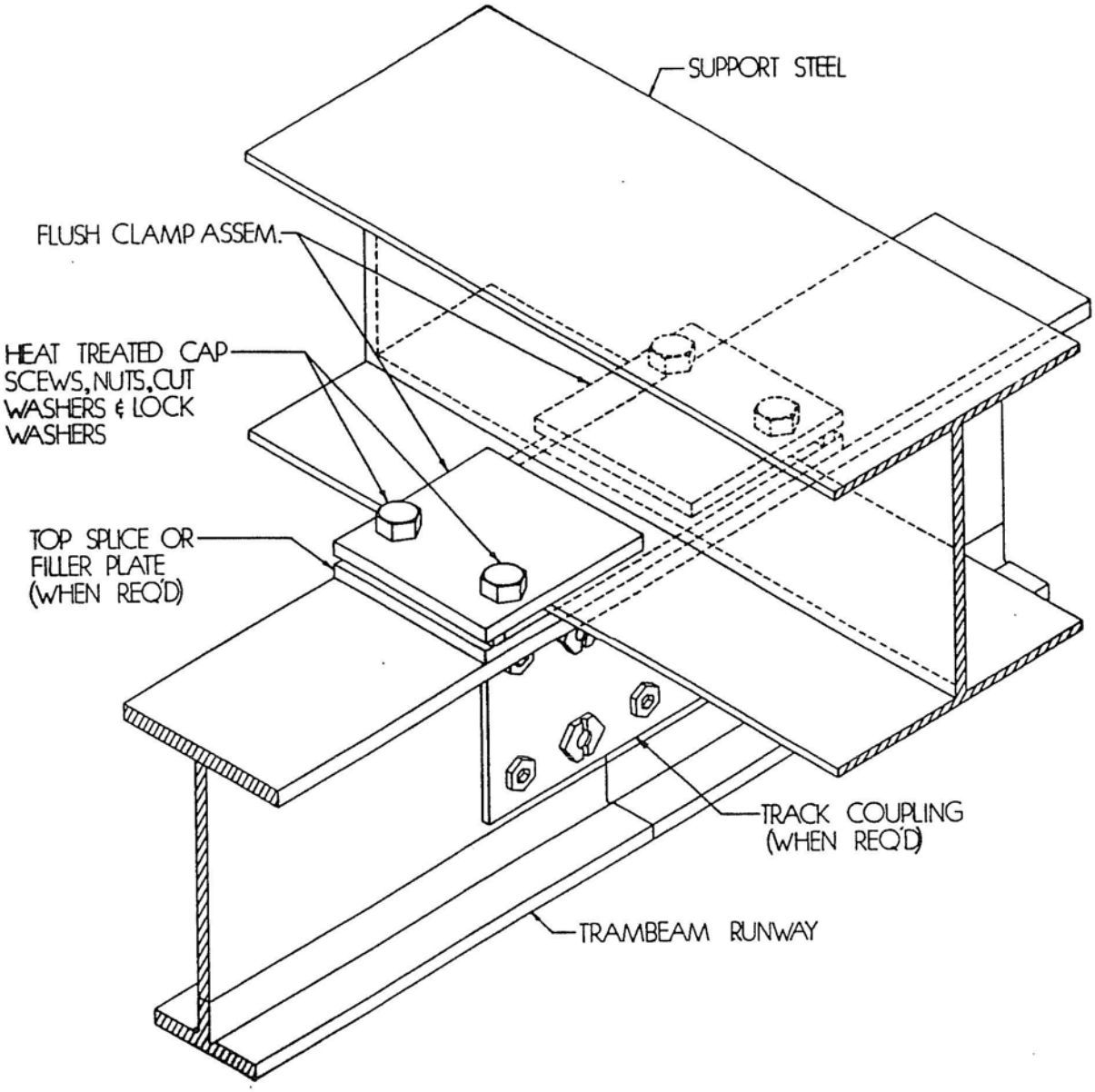
REF. NO.	PART NO.	DESCRIPTION	QTY
1	3401022	COUPLING PLATE	2
2	3401025	SPECIAL SCREW	4
3	3401024	SPECIAL NUT	4
4	680500150	1/2 X 1-1/2 CS-N-LW	4





TYPICAL SECTION

REF. NO.	PART NO.	DESCRIPTION	QTY
1	3401023	COUPLING PLATE	2
2	3401025	SPECIAL SCREW	8
3	3401024	SPECIAL NUT	8
4	680500175	1/2 X 1-3/4 CS-N-LW	8


SUPPORT STEEL
FLUSH CLAMP ASSEM.
HEAT TREATED CAP SCEWS, NUTS, CUT WASHERS & LOCK WASHERS
TOP SPLICE OR FILLER PLATE (WHEN REQ'D)
TRACK COUPLING (WHEN REQ'D)
TRAMBEAM RUNWAY