

SERIES E AND G OVERHEAD HOISTS

WARNING

***These Hoists are not to be used
for lifting or lowering people***

OPERATING PRACTICES

The two most important aspects of Hoist operation are: (1) Allow only qualified people to operate a Hoist, and (2) Subject each Hoist to a regular inspection and maintenance procedure.

A qualified operator must be physically competent. He must have no health condition which might affect his ability to react, and he must have good hearing, vision and depth perception. The qualified Hoist operator must be carefully instructed in his duties and must understand the operation of the Hoist, including a study of the manufacturer's literature. He must thoroughly understand proper methods of hitching loads. He should have a good attitude regarding safety and should refuse to operate under unsafe conditions.

Regular inspection procedures should be set up, rigidly adhered to and recorded by or under direction of a qualified person. On Hoists in continuous service, inspection should be made at the beginning of each shift. The items to be checked include, but are not limited to:

- a. Lubricate according to manufacturer's instructions.
- b. **Brakes:** Visually check for proper adjustment (see Brake Adjustment on page 4). Lift a capacity or near capacity load a few inches off the floor and check ability of braking system to stop and hold the load without excessive drift.
- c. **Wire Rope and Hooks:** Visually inspect the wire rope. Replace it **at once** if there is indication of fraying, or if it is crushed, cut or otherwise damaged.

Hooks should be checked for wear, increase in throat opening, and bending.

Notice: The use of other than genuine Ingersoll-Rand replacement parts may result in decreased tool performance and increased maintenance, and may, at the Company's option, invalidate all warranties.

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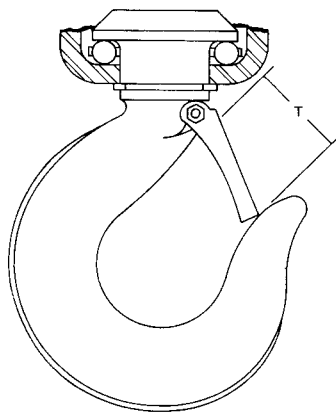
Printed in U.S.A.

INGERSOLL-RAND®
AIR HOISTS

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Note: Increased throat opening or a bent hook indicates overloading or abuse. Replace hooks having a 15% increase in throat or 10% bend. If the latch snaps past the tip of the hook, the hook is sprung and must be replaced. Check hook support bearings for lubrication or damage. See that they swivel easily and smoothly.



(Dwg. TPD450)

HOOK ASSEMBLY NO.	ILLUS. NO.	"T" THROAT OPENING			
		NEW		DISCARD	
		INCHES	MM	INCHES	MM
D10-AS377	64 & 140	2-1/2	63.5	2-7/8	73.0
D20-AS304A	64 & 152	4	101.6	4-5/8	117.5

- d. **Controls:** See that controls function properly and return to neutral when released. Check the functioning of up and down stops by running the empty hook slowly to both extremes of travel. If the hook does not stop in its normal position, do not operate the Hoist until the cause of the trouble is located and corrected.
- e. **General:** Check to see that mounting fastenings are secure, unworn and undamaged. On trolley-mounted Hoists, check that trolley wheels track the rail properly and that wheels and rail are not excessively worn. Be alert for unusual visual or audible signs which could indicate a defect. Do not operate the Hoist until the defect has been determined and corrected.

Periodically, depending on the severity of the service:

- a. Inspect the top and bottom hooks with a magnetic particle or other crack detector.
- b. Check the hook thrust bearings for smoothness and ascertain that the hook nuts are properly tightened and locked.
- c. Check the condition of the trolley wheels and bearings by lifting a capacity load with the Hoist and slowly moving it along the track, paying particular attention for rough or bumpy operation.
- d. Check all bolts or fasteners used in the suspension of the Hoist.

OPERATING INSTRUCTIONS

1. Read the manufacturer's operating instructions before operating the Hoist.
2. Never lift a load greater than the rated capacity of the Hoist.
3. Never use the Hoist rope as a sling.
4. Always stand clear of the load.
5. Never use the Hoist for lifting or lowering people, and never stand on a suspended load.
6. Never carry loads over people.
7. Before each shift, check the Hoist for wear or damage. Check brakes, limit stops, etc.
8. Periodically inspect the Hoist thoroughly and replace worn or damaged parts.
9. Follow the lubrication instructions.
10. Do not attempt to repair load hooks. Replace them when worn or damaged.
11. Never operate a Hoist when the load is not centered under the hook. Do not "side pull" or "yard".
12. Always rig the Hoist properly and carefully.
13. Never operate a Hoist with twisted, kinked or damaged wire rope.
14. Ease the slack out of the wire rope and sling when starting a lift. Do not jerk the load.
15. Keep the wire rope clean and well lubricated. Do not drag it or the hook on the floor.
16. Be certain there are no objects in the way of a load or hook when moving the Hoist.

17. Be certain the air supply is shut off before performing maintenance work on the Hoist.
18. Avoid swinging the load when moving the Hoist. Slowly start the trolley.
19. Keep the load block overhead when not in use.
20. Properly secure the Hoist before leaving it unattended.
21. Be certain the load is properly seated in the saddle of the hook. Do not tiplod the hook as this leads to spreading and eventual failure of the hook.
22. Do not allow unqualified personnel to operate a Hoist.
23. Avoid collision or bumping of Hoists. Do not swing a suspended load.
24. Do not operate a Hoist if you are not physically fit to do so.
25. Do not do anything you believe may be unsafe.
26. Do not use the Hoist rope as a ground for welding. Do not attach a welding electrode to a Hoist or sling chain.
27. Do not divert your attention from the load while operating a Hoist.
28. Do not use up and down stops as a means of stopping a Hoist—these are emergency devices only.
29. Do not leave a load suspended for any extended period—never unattended.
30. Never splice a sling chain by inserting a bolt between links.
31. Do not force a chain or hook into place by hammering. Do not insert the point of the hook into a chain link.
32. Do not expose the sling chain to freezing temperatures, and do not apply sudden loads to a cold chain.

LUBRICATION

Warning: Before shipment, all oil was drained from the Motor Case (1). A quantity of oil sufficient for one filling is contained in the can packed with the Hoist. Before operating the Hoist, close both Oil Cocks (6), remove the Vent Cap (2) and pour the entire contents of the can into the Motor Case.

Maintain Oil Level in Motor Case: At regular intervals, depending on the service to which the Hoist is subjected, check the oil level in the motor as follows:

After the Hoist has been idle for several hours, open the Oil Cock (6) at the bottom of the Motor Case (1) and allow the accumulated water to drain out. Open the Oil Cock on the side of the Motor Case and unscrew the Vent Cap (2) from the top of the Motor Case. Add oil through the top opening until the oil in the case is level with the open Oil Cock.

For ambient temperatures of 30° F to 80° F (-1.1° C to 26.6° C), use Ingersoll-Rand Medium Oil No. 50, or SAE 30 motor oil, or any non-emulsifying, non-detergent, rust-inhibited, oxygen-stable oil meeting AGMA standard No. 2.

For ambient temperatures below 30° F (-1.1° C), use SAE 20 or 20W motor oil, or a non-emulsifying, non-detergent, rust-inhibited, oxygen-stable oil of equivalent viscosity.

For ambient temperatures above 80° F (26.2° C), use SAE 40 motor oil, or any non-emulsifying, non-detergent, rust-inhibited, oxygen-stable oil meeting AGMA standard No. 3.

Maintain Grease Level in Gear Chamber: Periodically as experience dictates, remove the Grease Plug from the side of the Gear Case (89). If the grease level is below the opening, remove one of the Cover Plates (94) and add Ingersoll-Rand Medium Gear Grease No. 75 to bring the grease in the chamber to the level of the side opening. A light consistency lime or soda soap grease may be used as a substitute for the No. 75 Grease. Six pounds (3 kg) of grease are required for an initial filling.

Weekly

Insert about 1.5 cc of Ingersoll-Rand Lubricant No. 28 or No. 2 Multi-Purpose Grease into either of the two large Grease Fittings (24) in the Valve Chest (18); also insert a similar amount into the Small Grease Fitting (25) in the Valve Chest Cover (29).

Insert about 3 cc of the above grease through the Grease Fitting (130) in the Housing Cover (128) of Series G Hoists. Squirt a few drops of machine oil into the oil holes in the Sheave Block (139) of Series E Hoists.

Squirt enough machine oil around the Sheave Shaft Anchor (149) of Series G Hoists to fill the oil slot in the Sheave Shaft (147).

Ingersoll-Rand Air Line Lubricators are recommended for use with Overhead Hoists.

OPERATION AND MAINTENANCE CAUTIONS

Air Strainer

The use of an Air Strainer Assembly (660) with each Overhead Air Motor Hoist is recommended.

To clean the Strainer, shut off the air supply and unscrew the Air Strainer Plug (664) from the Strainer Cap (663). Turn on the air momentarily and blow out the dirt. If the Screen (662) becomes clogged to the extent that the above method fails to clean it properly, unscrew the Cap from the Strainer Body (661), remove the Screen and wash it in kerosene or other solvent.

Keep Wire Rope tightly wound on Grooved Rope Drum: Before putting the Hoist in service and periodically thereafter, run the Hoist in the lowering direction as far as the down-stop will permit. Apply a load to the Hook and rewind the Rope on

the Drum. During storage, shipment or even during operation, if the Hoist is used predominantly for lowering loads, the Wire Rope has a tendency to uncoil. If not corrected, a loop will form which may in time become large enough to contact the Hoist Housing and cause serious damage.

Wire Rope Replacement on Standard Hoists

Uncoil the new Rope and lay it out straight on the floor. Remove any burrs from the zinc cone so that it will fit freely in the drum socket. Slowly operate the Hoist and apply sufficient tension on the rope to wind it tightly on the Drum. When all but about 6 or 8 feet of the Rope have been wound, stop the Hoist and install the rope guide parts, aligning the Guide (177) with the proper groove in the Drum (60).

Brake Adjustment and Maintenance

The design and construction of the brake is such that once it is properly adjusted, further regulation is seldom, if ever, necessary unless new parts are installed. When installing new parts, run the Brake Bolt Nuts (102) on the Brake Bolt (99) until the distance over the Washers (101) is 6-3/8" (162 mm). This dimension will usually produce the proper brake action. The Gear Case (89) of more recent Hoists contains two brake inspection ports, one located at each side of the Brake Plunger Cylinder (110). By removing the Brake Inspection Port Covers (94) from the ports the condition of the brake parts can be noted and adjustment made if necessary. For Hoists not equipped with a ported Case it is necessary to remove the Gear Case to inspect or make adjustment of the brake. Refer to instructions for renewing the Brake Drum and Brake Shoe for proper procedure when removing the Gear Case (89).

Renew the Brake Drum (86) and Brake Shoe (98) at the same time; it is false economy to mate a new Drum with a worn Shoe or vice versa.

To renew the Brake Drum and Brake Shoe: Unscrew the Brake Pipe Elbow (82) from the Brake Plunger Cylinder (110). The port below the pipe threads in the Cylinder is tapped 3/8"-16 thd. Screw a cap screw at least 1-1/2" (38 mm) long into the tapped hole, forcing the Brake Plunger (103) downward and causing the brake to release so that the Gear Case (89) can be removed. After removing the Gear Case, loosen the cap screw to allow the Brake Shoe (98) to contract. Remove the Brake Plunger Cylinder from the Gear Case; then withdraw the Brake Pin Cotter (113) and slip the Shoe from the Brake Shoe Pin (90). Install the new Shoe and reverse the procedure expanding it with the 3/8"-16 thd. cap screw.

Withdraw the Brake Drum (86) with assembled parts from the Hoist and remove the Brake Drum from the Motor Shaft (83). **Note:** The Motor Shaft Pinion (84) must also be removed from the Shaft of Series G Hoist as the Brake Drum can only be removed from the small diameter end of the Shaft.

Reverse Valve Removal

Unscrew the Throttle Valve Cap (39) and remove the Poppet Throttle Valve (36) from the Valve Chest (18) before attempting to withdraw the Reverse Valve (33) from the Reverse Valve Bushing (22).

Valve Chest Removal

Use two No. D02-932 Jack Bolts, listed under Maintenance Tools on Page 15, to remove the Valve Chest (18) from the Motor Case (1).

Removal and Installation of Bushings in Valve Chest

Use an arbor that will clear the Bushing Key (19), that projects into each valve chest bore, and press on the bushing face that is flush with the valve chest face when pressing either the Rotary Valve Bushing (20) or Reverse Valve Bushing (22) from the Valve Chest. Otherwise the Bushing Key will be sheared off.

If the Rotary Valve (27) is too tight in the new Bushing, lap it to a good running fit; if too tight to lap, ream the Bushing 1.625" (41.3 mm) diameter.

Do not lap the Reverse Valve (33) into the Reverse Valve Bushing. If the Valve fits too tightly in the new Bushing, ream the Bushing 1.625" (41.3 mm) diameter.

Crank Assembly

The two sections of the Crank (7) are joined and marked before final machining; therefore only those with identical marking can be used together. If two or more Cranks are disassembled at one time, be sure the stamping on each web is identical when reassembling.

Firmly seat the Crank Taper Pin (9) with a punch. Tighten the Crank Pinch Bolt (10) and, after again striking the Pin with a Punch, spread the split end of the Pin. Use a new Taper Pin each time a Crank is reassembled.

Piston Rings and Cylinder Installation

Do not expand the Piston Rings (55 and 56) more than is necessary to slide them over the Piston (54) and into the groove. Use the No. D10-933 Piston Ring Compressor when installing the Cylinder Sleeve (52A) on the Motor Case (1).

Hoist Maintenance

Always release the brake (see Brake Adjustment and Maintenance) before attempting to remove the Gear Case (89).

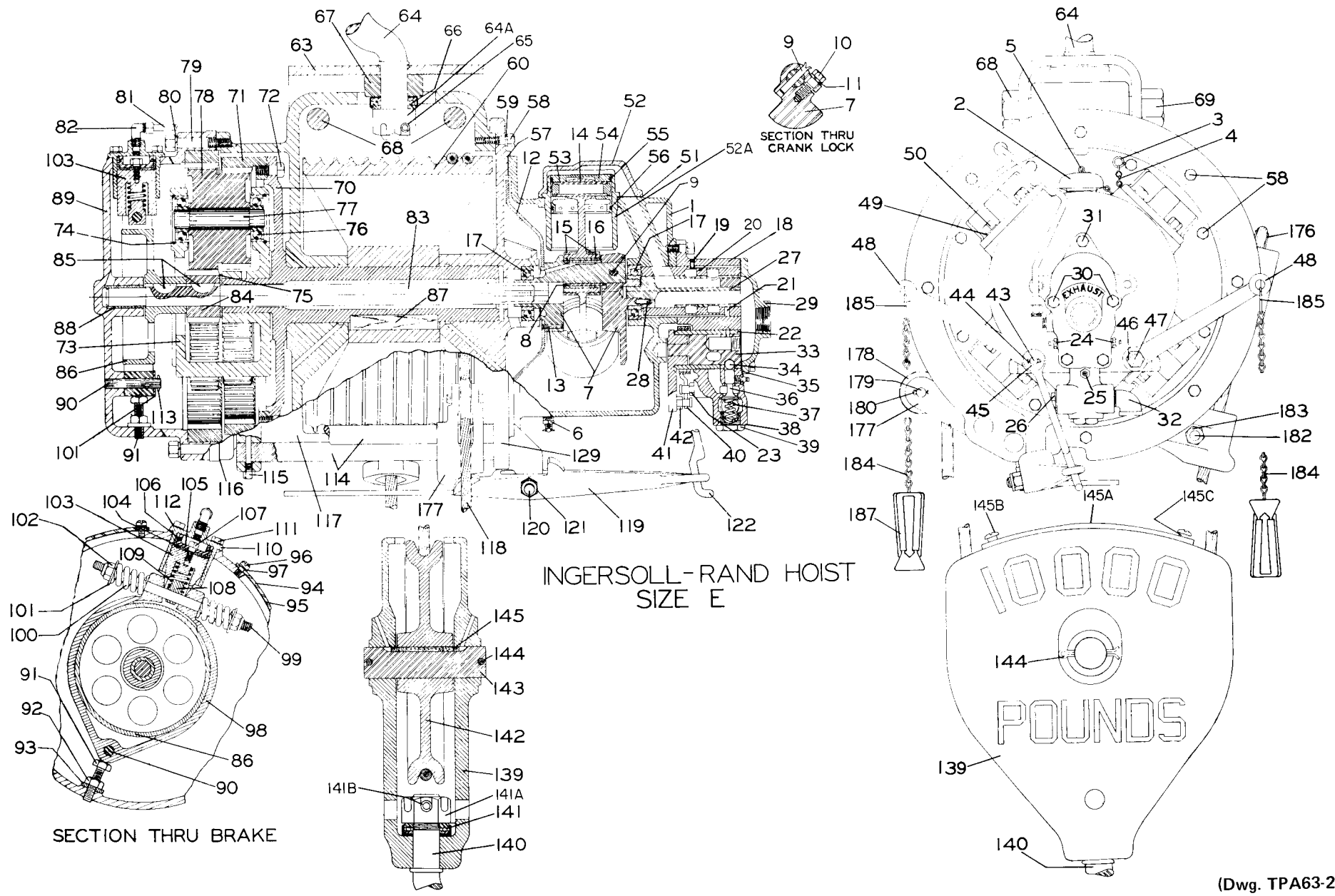
Always use a puller to remove a Rope Drum from the Drum Shaft. Do not attempt to press the Shaft out: serious damage to the Housing will result. Two tapped holes (3/4"-10 thd on Grooved Rope Drums and 5/8"-10 thd. on Spool Rope Drums) in the end face of the Drum are provided for attaching a puller.

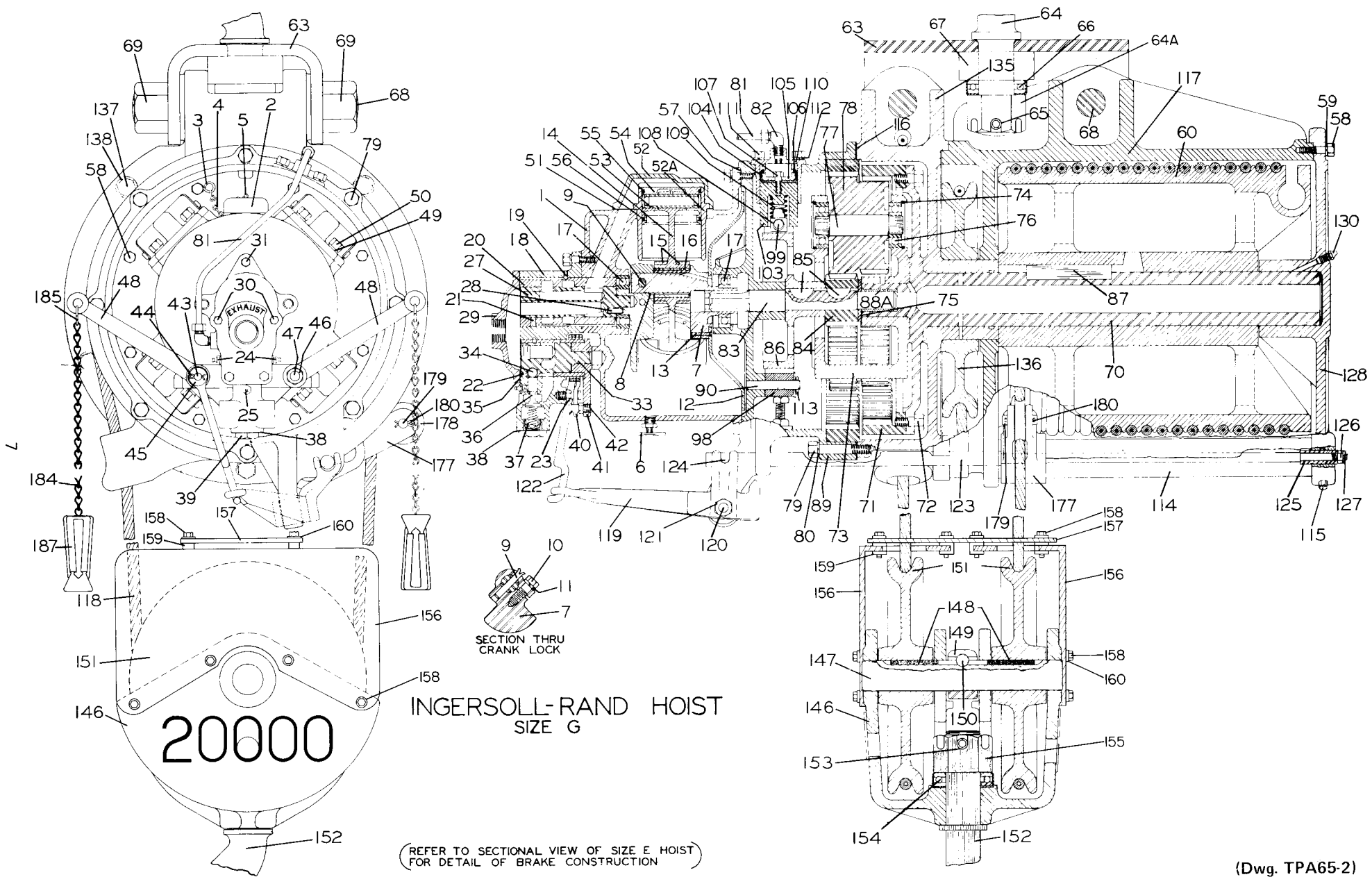
Lubricate the Drum Shaft bearing surfaces on all series and, on the Series G Hoist, the Idler Sheave bearing surfaces with "Liqui Moly Grease" when reassembling the Hoist.

When pressing the Rope Drum (60 or 61) onto the Drum Shaft (70), be certain to leave running clearance between the face of the drum hub and the face of the internal housing boss. It should not, however, exceed 1/32" (.8 mm). Check frequently during the pressing operation to determine the amount of end play between the faces, as it is impossible to see them.

When installing the Intermediate Gear Frame Assembly, position the Intermediate Gears (78) so that the tooth space marked "X" on each Gear aligns with a tooth marked "X" on the Drum Shaft Gear (71).

9





INGERSOLL-RAND HOIST
SIZE G

(REFER TO SECTIONAL VIEW OF SIZE E HOIST
FOR DETAIL OF BRAKE CONSTRUCTION)

Parts for Series E and G Hoists Under Serial 21,000 Are No Longer Available.

PART NUMBER FOR ORDERING

		↓	↓
		Series E	Series G
	Motor Assembly	D10-A501	D20-A501
1	Motor Case	D10-501	D10-501
2	Vent Cap	D02-303A	D02-303A
3	S-Hook	D02-421	D02-421
4	Vent Cap Chain	D02-891	D02-891
*	Vent Cap Screen	D02-889	D02-889
*	Vent Cap Screen Retainer	6CND-233-1/2	6CND-233-1/2
5	Vent Cap Cotter	D02-893	D02-893
6	Oil Cock (2)	D02-308	D02-308
*	1/4" Pipe Plug	D02-402	D02-402
	Crank Assembly	D10-A516	D10-A516
7	Crank, Bare (consists of 2 matched pieces - not sold separately)	D10-516	D10-516
8	Crank Pin Sleeve	D10-519	D10-519
9	Crank Taper Pin	D10-520	D10-520
10	Crank Pinch Bolt	D10-521	D10-521
11	Crank Pinch Bolt Lock Washer	D10-322	D10-322
12	Oil Splasher	D10-540	D10-540
13	Oil Splasher Rivet (4)	D06-541	D06-541
14	Connecting Rod (4)	D10-509	D10-509
15	Connecting Rod Ring (2)	D10-510	D10-510
16	Connecting Rod Bushing	D10-511	D10-511
17	Crank Bearing (2)	D10-518	D10-518
†	Valve Chest Assembly	D10-A545A	D20-A545A
○ 18	Valve Chest	D10-545A	D10-545A
○ 19	Bushing Key (2)	B12-255	B12-255
○ 20	Rotary Valve Bushing	D10-525AS	D10-525AS
○ 21	Valve Oiler	JA4-75	JA4-75
○ 22	Reverse Valve Bushing	D10-945-5S	D10-945-5S
○ 23	Throttle Spring Stop Pin	D02-553	D02-553
○ 24	Grease Fitting (2)	23-188	23-188
○ 25	Small Grease Fitting	R1-188	R1-188
○ 26	Air Inlet Plug	22SR-165	22SR-165
○ 27	Rotary Valve	D10-526	D20-526
○ 28	Valve Drive Pin	D10-527	D10-527
○ 29	Valve Chest Cover	D10-546A	D10-546A
○ 30	Valve Chest Long Screw (2)	D10-548	D10-548
○ 31	Valve Chest Short Screw (3)	D02-506	D02-506
*	Valve Chest Screw Lock Washer (5)	D02-321	D02-321
○ 32	Inlet Elbow	DU-581	DU-581
○ 33	Reverse Valve	D10-944	D10-944
○ 34	Throttle Valve Ball (1/2" dia. steel ball)	D10-280	D10-280
○ 35	Valve Chest Cover Gasket	D10-928	D10-928
○ 36	Poppet Throttle Valve	D02-940	D02-940
○ 37	Throttle Valve Spring	B01-11	B01-11
○ 38	Throttle Valve Cap Gasket	G601-411	G601-411
○ 39	Throttle Valve Cap	D02-943	D02-943

* Not illustrated.

† Can be used as a replacement for the Valve Chest Assembly with "taper-plug" type Throttle Valve with which Hoists under serial 28,000 were equipped. A new style Throttle Control Arm (41) must also be purchased and installed when making this conversion. Neither the old style Valve Chest Assembly nor any of its component parts are available.

○ Not available for Hoists equipped with "taper-plug" type Throttle Valve. Order a Valve Chest Assembly and Throttle Control Arm. See preceding note.

PART NUMBER FOR ORDERING



		Series E	Series G
40	Throttle Lever Spring	D02-412B	D02-412B
41	Throttle Control Arm	D10-555	D10-555
42	Throttle Spring Stop Pin	D02-553	D02-553
43	Stop Link Bolt	D02-523	D02-523
44	Stop Link Bolt Cotter	D02-524	D02-524
45	Stop Link Bolt Washer	D02-419	D02-419
46	Throttle Lever Bolt Nut (2)	D02-418A	D02-418A
47	Throttle Lever Bolt	D02-411A	D02-411A
48	Throttle Lever (2)	D02-556	D02-556
49	Cylinder Cap Screw Washer (16)	D10-504	D10-504
50	Cylinder Cap Screw (16)	D10-506	D10-506
51	Cylinder Gasket (4)	D10-507	D10-507
	Cylinder Assembly (4)	D10-A505A	D10-A505A
52	Cylinder Head	D10-H505A	D10-H505A
52A	Cylinder Sleeve	D10-L505A	D10-L505A
53	Piston Wrist Pin (includes caps) (4)	D10-514	D10-514
54	Piston (4)	D10-A513B	D10-A513B
55	Piston Ring (one for each Piston)	D10-337A	D10-337A
56	Oil Regulating Piston Ring (one for each Piston)	D10-338	D10-338
57	Motor Case Cover Gasket	D10-592	D10-592
58	Motor Case Screw or Housing Cover Screw (15)	D10-312A	D10-312A
59	3/8" Lock Washer (15)	D02-321	D02-321
60	Grooved Rope Drum	D10-371	D20-371
*	Wire Rope Set Screw	D10-381	D10-381
*	Wire Rope Clip	D10-949	D10-949
*	Rope Clip Screw (2)	D02-950	D02-950
63	Top Hook Yoke	D10-S590A	D20-590A
64	Top Hook Assembly	D10-AS377	D20-AS304A
*	Latch Kit (individual parts not sold separately)	D10-S123	D20-S123
64A	Hook Nut	D10-305B	D20-305B
65	Hook Pin	D6100A-376	MR-964
66	Hook Bearing	D10-379A	D20-379A
67	Top Hook Spacer	D10-591A	D20-591A
68	Yoke Bolt (2)	D10-339	D20-339
69	Yoke Bolt Nut (2) (2 additional for Series G)	D10-440B	D20-341A
70	Drum Shaft	D10-459	D20-459B
71	Drum Shaft Gear	D10-798A	D10-798A
72	Drum Shaft Cap Screw (8)	D10-799	D10-799
	Intermediate Gear Frame Assembly	D10-A367A	D20-A367A
73	Intermediate Gear Frame	D10-367A	D10-367A
74	Bearing Retaining Spring (6)	D10-340	D10-340
75	Pinion Thrust Washer	D10-397	D20-397
76	Intermediate Gear Shaft Bearing (6)	D10-366	D10-366
77	Intermediate Gear Shaft (3)	D10-365	D10-365
78	Intermediate Gear (3)	D10-364A	D10-364A
79	Gear Case Screw (8)	D10-354A	D10-354A
80	1/2" Lock Washer (8)	D10-322	D10-322
81	Brake Pipe	D10-401A	D20-401A
82	Brake Pipe Elbow (includes connector) (2)	D10-400	D10-400

* Not illustrated.

⊖ Unless the shank on the present Top Hook (64) is threaded 1-1/2"-12 thd. for Series E, or 2-1/4"-12 thd. for Series G, order a Top Hook Yoke, Yoke Bolt and Yoke Bolt Nut.

PART NUMBER FOR ORDERING



		Series E	Series G
	Motor Shaft Assembly	D10-A316B	D20-A316A
83	Motor Shaft	D10-316B	D20-316A
84	Motor Shaft Pinion	D10-319A	D10-319A
85	Motor Shaft Pinion Key and Brake Drum Key (2)	D10-320	D10-320
86	Brake Drum	D10-803	D10-803
87	Rope Drum Key	D10-323	D10-323
88	Gear Case Bushing	D04-355	—
88A	Drum Shaft Bushing	—	D04-355
89	Gear Case	D10-353A	D20-353
*	Grease Plug	D02-351	D02-351
90	Brake Shoe Pin	D10-806	D10-806
91	Brake Support Screw	21-726	21-726
92	1/2" Hexagon Nut	215-182	215-182
93	1/2" Copper Washer	HU-504	HU-504
94	Brake Inspection Port Cover (2)	D10-935	D10-935
95	Inspection Port Cover Gasket (2)	D10-936	D10-936
96	Inspection Port Cover Screw (8)	W99-596	W99-596
97	Inspection Port Cover Screw Lock Washer (8)	L01-67	L01-67
98	Brake Shoe	D10-804	D10-804
99	Brake Bolt	D10-392	D10-392
100	Brake Spring (2)	D10-393	D10-393
101	Brake Washer (3)	D10-807	D10-807
102	Brake Bolt Nut (2)	FM-544	FM-544
	Brake Plunger Assembly	D10-A805	D10-A805
103	Brake Plunger	D10-805	D10-805
104	Brake Plunger Packing	D10-809	D10-809
105	Brake Plunger Packing Washer	D10-810A	D10-810A
106	Plunger Packing Ring	D10-814	D10-814
107	Brake Plunger Cap Screw	R3-7A	R3-7A
108	Brake Plunger Spring Seat	D10-812	D10-812
109	Brake Plunger Spring	D10-808	D10-808
110	Brake Plunger Cylinder	D10-802	D10-802
111	Brake Cylinder Cap Screw (4)	D02-506	D02-506
112	3/8" Lock Washer (4)	D02-321	D02-321
113	Brake Pin Cotter (3/32" x 3/4")	D02-524	D02-524
114	Rope Guide Rod (2)	D10-791	D20-791
115	Guide Rod Retaining Screw (2)	D04-795	D04-795
116	Gear Case Gasket	D10-931	D10-931
117	Housing	D10-300B	D20-300
*	Grease Plug	D02-351	D02-351
118	Wire Rope	D10-372	D20-372
119	Stop Lever	D10-422B	D20-422A
120	Stop Lever Bolt	D10-354A	R4K-211
121	Stop Lever Bolt Nut (1/2" Elastic Stop Nut)	D02-904	D02-904
122	Stop Lever Link	D10-424C	D10-424C
123	Stop Rod	—	D20-817
124	Stop Rod Pin	—	D20-820
125	Stop Rod Sleeve	—	D20-818
126	Stop Rod Nut	—	TC-413
127	Stop Rod Cotter	—	D02-524
128	Housing Cover	—	D20-816
129	Motor Case Cover	D10-502	—
130	Grease Fitting	—	23-188

* Not illustrated.

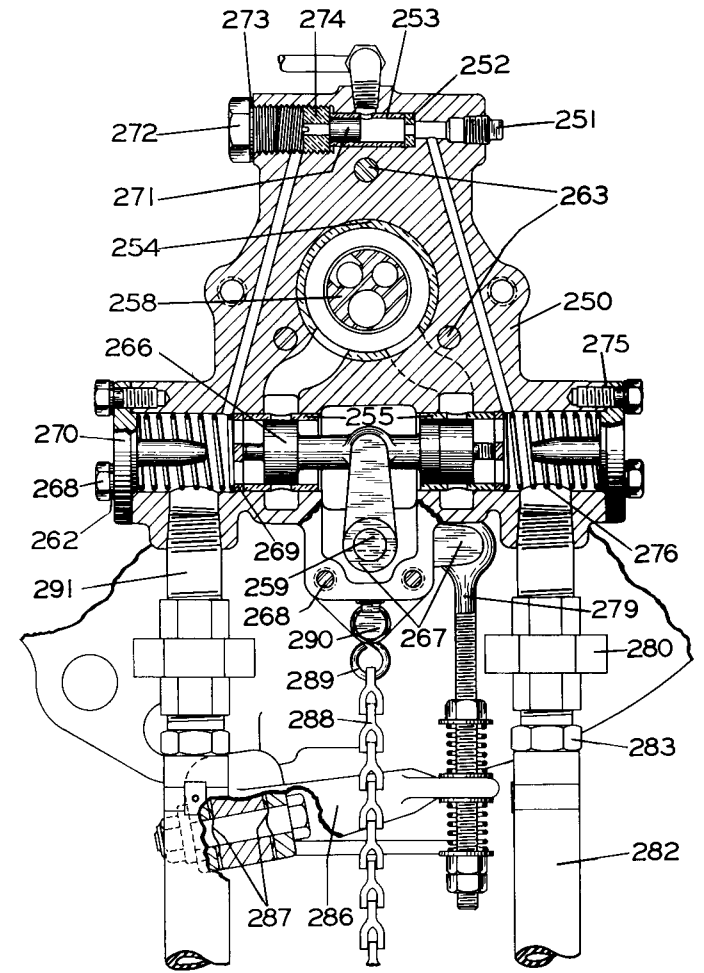
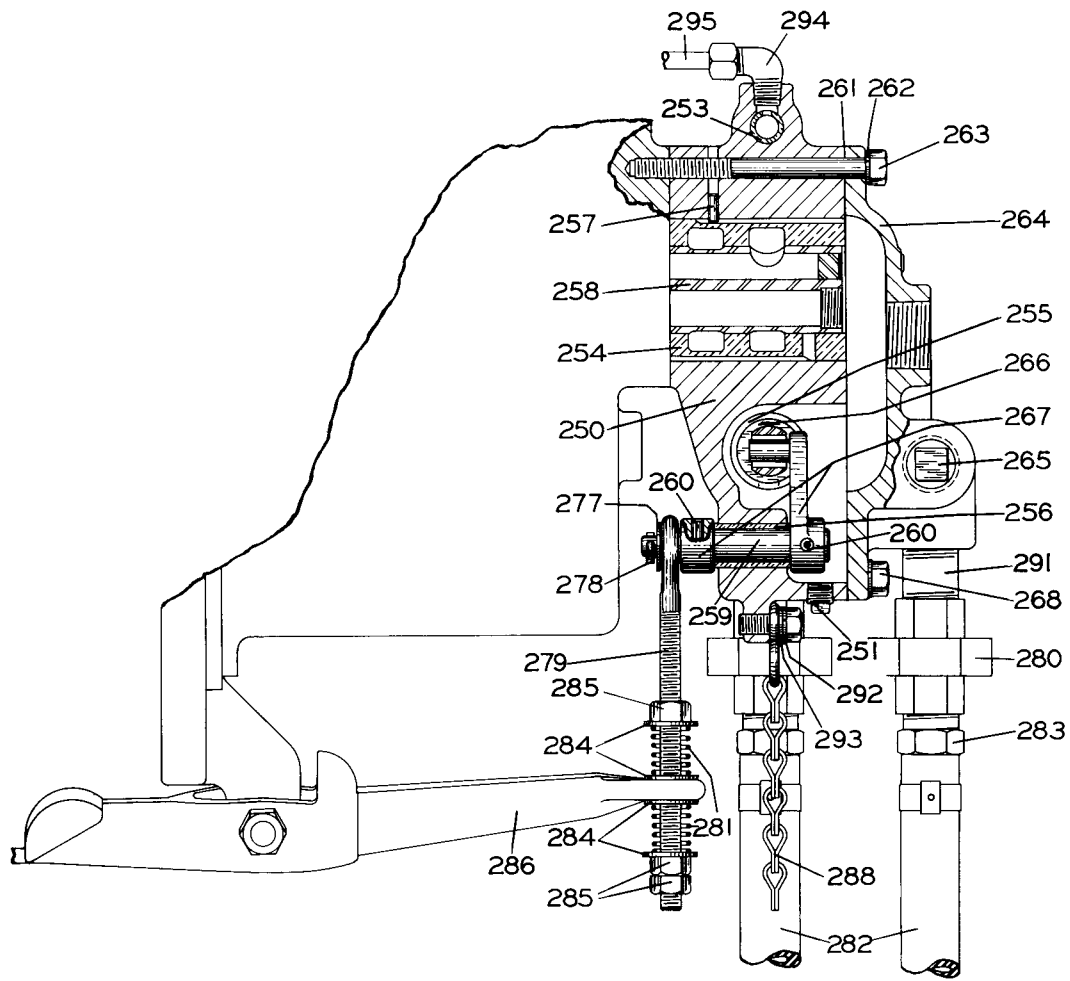
PART NUMBER FOR ORDERING



		Series E	Series G
135	Drum Gear Housing	---	D20-350
*	Grease Plug	---	D02-351
136	Idler Sheave	---	D20-349
137	Drum Gear Housing Bolt (5)	---	KX-36
138	Drum Gear Housing Bolt Lock Washer (5)	---	A-67
	Sheave Block Assembly	D10-AS378A	---
	Block and Hook Assembly	D10-S378A	---
139	Block (1 for each Sheave Block Assembly)	D10-378B	---
● 140	Hook Assembly	D10-AS377	---
*	Latch Kit (individual parts not sold separately)	D10-S123	---
▲ 141	Hook Bearing	D10-379A	---
141A	Hook Nut	D10-305B	---
141B	Hook Pin	D6100A-376	---
142	Sheave	D10-380	---
143	Sheave Shaft	D10-382	---
144	Sheave Shaft Cotter (2)	D04-383	---
145	Sheave Shaft Oiler	D10-384	---
145A	Sheave Block Cover	D10-383	---
145B	Cover Screw (4)	J-376	---
145C	Lock Washer (4)	L01-67	---
	Sheave Block Assembly	---	D20-A378A
▲ 146	Sheave Block	---	D20-378A
147	Sheave Shaft	---	D20-382
148	Sheave Shaft Oiler (2)	---	D02-384
149	Sheave Shaft Anchor	---	D20-448
150	Sheave Shaft Anchor Pinch Bolt	---	D20-651
*	Pinch Bolt Nut	---	D02-317
*	Pinch Bolt Cotter	---	D02-330
151	Sheave (2)	---	D10-380
▲ 152	Bottom Hook Assembly	---	D20-AS304A
*	Latch Kit (individual parts not sold separately)	---	D20-S123
153	Hook Pin	---	MR-964
154	Bottom Hook Bearing	---	D20-379A
155	Hook Nut	---	D20-305B
156	Sheave Cover-Side Plate (2)	---	D20-383X
157	Sheave Cover-Top Plate	---	D20-383Y
158	Sheave Cover Screw (16)	---	FMD2-68
159	Sheave Cover Nut Retainer (8)	---	D20-428
160	5/16" Lock Washer (16)	---	T11-58
176	Rope Wedge	D10-373	---
177	Rope Guide	D10-790	D20-790
178	Rope Guide Roller	D02-792	D02-792
179	Guide Roller Pin	D02-793	D02-793
180	Roller Pin Cotter (2)	D02-524	D02-524
182	Rope Clamp (2 for G; 1 for E)	D10-375	D20-375
183	Rope Clamp Nut	215-182	---
184	Throttle Lever Chain (2)	D02-413	D02-413
185	S-Hook (2 for each Chain)	D02-421	D02-421
187	Throttle Handle (2)	MR-415	MR-415

* Not illustrated.

▲ Unless the shank on the present Bottom Hook (154) is threaded 2-1/4"-12 thd., order a Sheave Block (146) and Bottom Hook Assembly (152).



Pendent Throttle
For Pendent Throttle Handle Illustration, see Page 14.

PART NUMBER FOR ORDERING

PART NUMBER FOR ORDERING

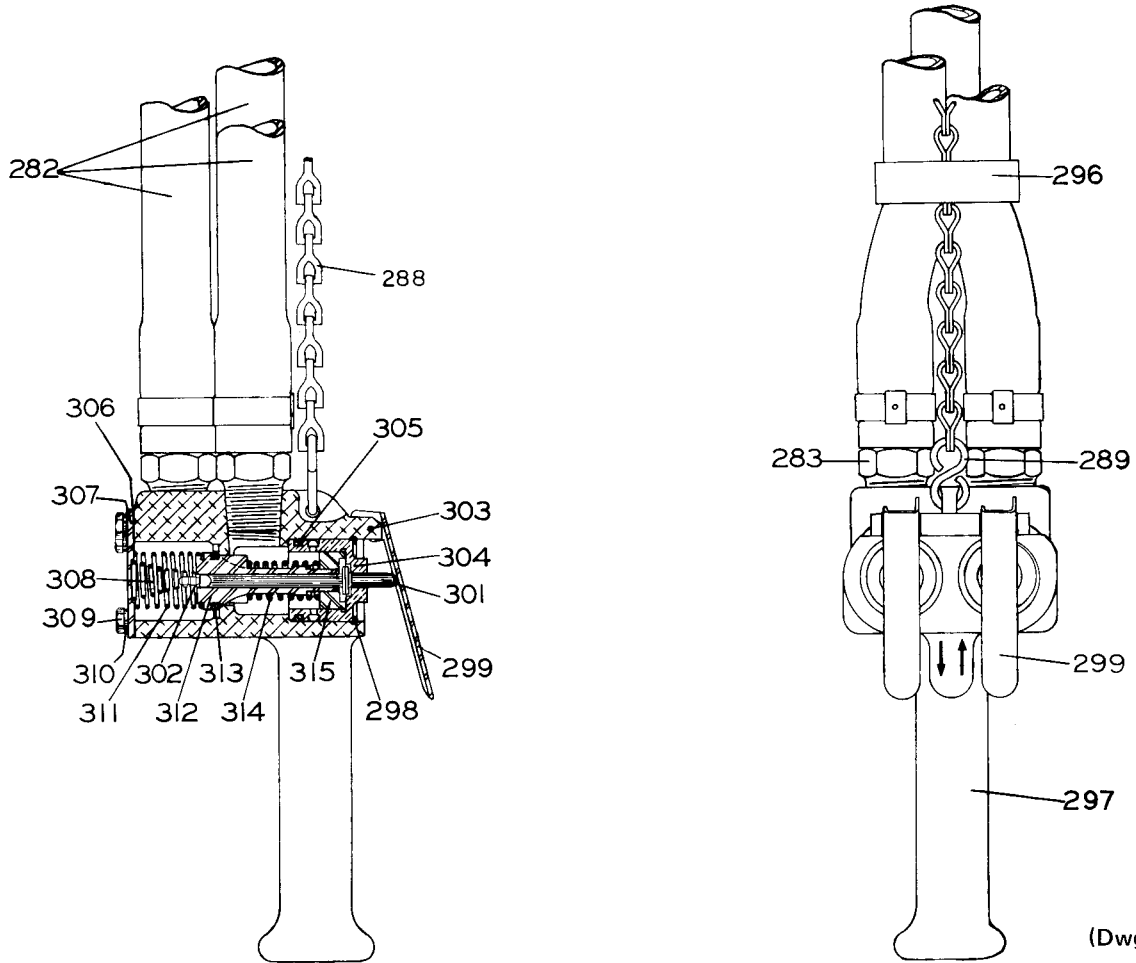
	Shuttle Valve Chest Assembly for Series E Hoist	D10-A245	285	Stop Lever Link Nut (3)	D02-418
	for Series G Hoist	D20-A245	286	Stop Lever for Series E Hoist	D10-222
250	Shuttle Valve Chest	D10-245		for Series G Hoist	D20-222
251	1/4" Pipe Plug (2)	D02-402	287	Friction Spring (2)	D01-268
252	Brake Valve Disc	D10-44	288	Pendent Throttle Chain (Specify Length) (order chain 1" shorter than (282) Control Hose) . . .	D01-240
253	Brake Valve Bushing	D10-63	289	S-Hook (2)	D01-221
254	Rotary Valve Bushing	D10-525A	290	Pendent Throttle Chain Screw	D02-506
*	Valve Oiler	JA4-75	291	Pendent Throttle Inlet Nipple (3) for 1/2" Union	AAM-286
255	Shuttle Valve Bushing (2)	D10-247		for 3/4" Union	J3-840
256	Stop Arm Shaft Bushing	D10-243	*	Reducing Bushing (3/4" male pipe to 1/2" female pipe) (for use with 1/2" Nipple) (3) . .	D02-420
257	Shuttle Valve Chest Bushing Key	R0AJ-191	292	3/8" Lock Washer	D02-321
258	Rotary Valve for Series E Hoist	D10-526	293	3/8" Plain Washer	D02-419
	for Series G Hoist	D20-526	294	Brake Pipe Elbow (includes connector) (2) . .	D10-400
*	Valve Drive Pin	D10-527	295	Brake Pipe for Series E Hoist	D10-201
259	Stop Arm Shaft	D10-255		for Series G Hoist	D20-201
260	Stop Arm Shaft Pin (2)	D01-256	296	Hose Binder (3)	D10-927
261	Shuttle Valve Chest Cover Gasket	D10-236	297	Pendent Throttle Handle	D10-279
262	3/8" Lock Washer (11)	D02-321	298	Handle Bushing Retainer (2)	D10-227
263	Valve Chest Long Screw (3)	D10-548	299	Pendent Throttle Lever (2)	R00H-273A
264	Shuttle Valve Chest Cover	D10-241	301	Throttle Valve Stem (2)	D10-214A
265	Valve Chest Cover Plug	22SR-165	302	Throttle Valve Stem Seal (2)	R00BR1C-283
266	Shuttle Valve	D10-246	303	Throttle Lever Pin	DLC-1281
267	Stop Arm (2)	D10-254	304	Pendent Throttle Handle Bushing (2)	D10-225
268	Valve Chest Short Screw (8)	D02-506	305	Handle Bushing Seal (2)	D10-226
269	Shuttle Valve Washer (2)	D10-248	306	Pendent Throttle Handle Cover Gasket	D10-219
270	Shuttle Valve Cap (2)	D10-238	307	Pendent Throttle Handle Cover	D10-218
271	Brake Valve	D10-62	308	Throttle Valve Stem Spring (2)	R2F-262
272	Brake Valve Cap	D01-943	309	Pendent Throttle Handle Cover Cap Screw (7)	R3-7
273	Brake Valve Cap Gasket	D01-946	310	Throttle Handle Cover Cap Screw Lock Washer (7)	L01-67
274	Brake Valve Seat	D01-65	311	Pendent Throttle Valve Spring (2)	D10-213
275	Shuttle Valve Cap Gasket (2)	D10-239	312	Pendent Throttle Valve (2)	D10-211
276	Shuttle Valve Spring (2)	D10-250	313	Pendent Throttle Valve Face (one for each Valve)	BU-948
277	Stop Link Washer	D02-419	314	Bleed Valve Spring (2)	D10-275
278	Stop Arm Cotter	D02-524	315	Bleed Valve (2)	D10-223
279	Stop Lever Link	D02-224	*	Control Hose Exhaust Valve (2) (Required when control exceeds 15 ft.) tapped 1/2" pipe thread	C6H20A-939
280	Hose Union (3) for 1/2" Male Hose Nipple	AAM-282		tapped 3/4" pipe thread	D10-939
	for 3/4" Male Hose Nipple	C04-282			
281	Stop Lever Link Spring (2)	D02-106			
282	Control Hose (3) 5 ft. Length	D10-930			
	Length as specified	D10-L930			
283	3/4" Male Hose Nipple (2 for each Hose) . .	J3-581			
284	Stop Lever Link Washer (4)	D02-419			

* Not illustrated.

■ See Improved Pendent Throttle Handle on page 13.

SUPERSEDED PENDENT THROTTLE HANDLE

Handle is tapped 3/4" Pipe Thread. For Improved Pendent Throttle, refer to Pages 13 and 17.

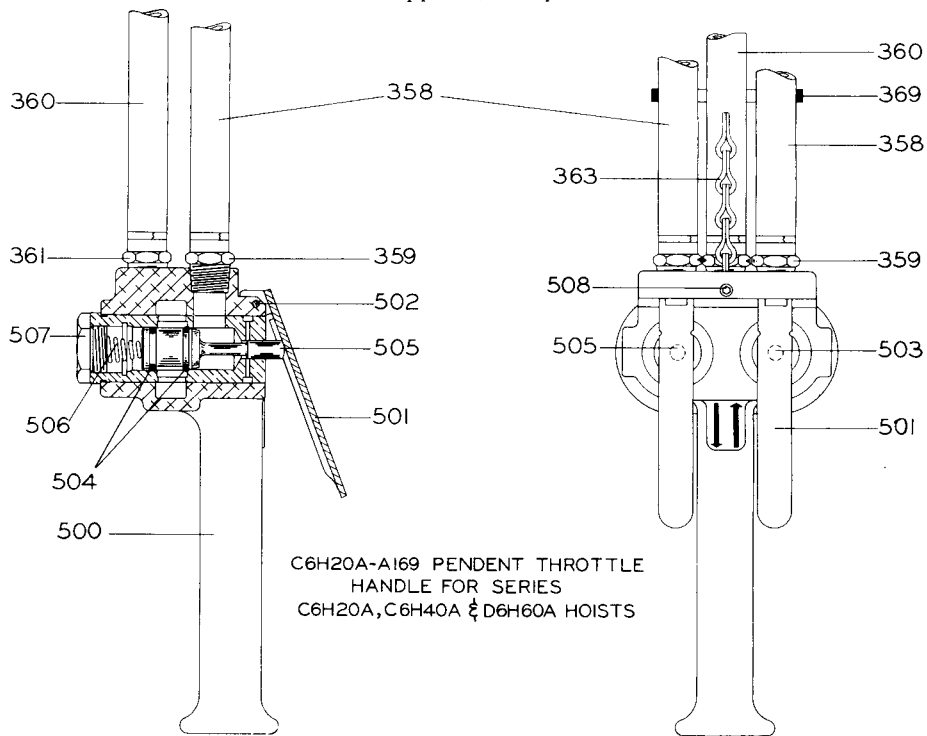


MAINTENANCE TOOLS

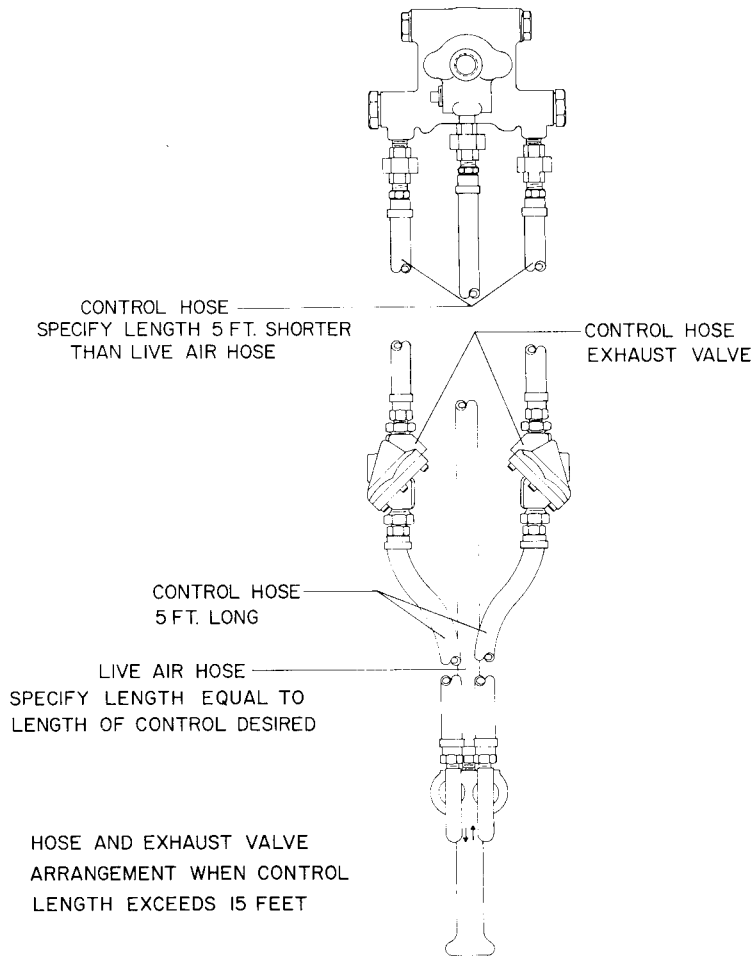
TOOL NUMBER FOR ORDERING	TOOL NAME FOR ORDERING	OPERATION
D02-426	Rope Set Screw Wrench	Removing and installing the Rope Set Screw in the Rope Drum (60 or 61).
D02-932	Valve Chest Jack Bolt (2)	Removing the Valve Chest (18) from the Motor Case (1).
D10-933	Piston Ring Compressor	Compressing the Piston Rings (55 and 56) when installing a Cylinder Sleeve (52A).
23468	Throttle Valve Seat Reamer	Refacing the seat in the Valve Chest (18) for the Poppet Throttle Valve (36).
23470	Throttle Valve Stem Reamer	Reaming the throttle valve stem hole in the Reverse Valve Bushing (22) after installing a new Bushing.
43051	Brake Valve Bushing Inserting Tool	Installing the Brake Valve Bushing (253) in the Shuttle Valve Chest (250).
43052	Shuttle Valve Bushing Inserting Tool	Installing the Shuttle Valve Bushings (255) in the Shuttle Valve Chest (250).
43057	Shuttle Valve Bushing Reamer	Hand reaming the Shuttle Valve Bushings (255) after installation.

IMPROVED PENDENT THROTTLE HANDLE

Handle is Tapped 1/2" Pipe Thread



(Dwg. TPB412)



(Dwg. TPB350)

**IMPROVED PENDENT THROTTLE HANDLE
(Tapped 1/2" Pipe Thread)**

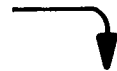
Improved Pendent Throttle Handle Assembly No. C6H20A-A169 is now available for Series E and G Hoists. Although Pendent Throttle Handle No. D10-279 remains available as a repair item, it is recommended that the Improved Pendent Throttle Handle Assembly be used as a replacement.

When replacing the D10-279 Pendent Throttle Handle Assembly with the C6H20A-A169 Handle Assembly, you must also order and install three C6H20A-14 1/2" Male Hose Nipples. Install these at the lower end of the Control Hoses to accommodate the new Pendent Throttle Handle.

If you are replacing **both** the D10-279 Pendent Throttle Handle Assembly **and** the Control Hoses with the C6H20A-A169 Handle Assembly and its corresponding Control Hoses, then you must also order and install the following:

- AAM-282 1/2" Hose Union (3)
- AAM-286 1/2" Pendent Throttle Inlet Nipple (3)
- D02-420 Reducing Bushing (3/4" male pipe to 1/2" female pipe) (3)
- C6H20A-939 Control Hose Exhaust Valve (required when control length exceeds 15 ft.) (2)

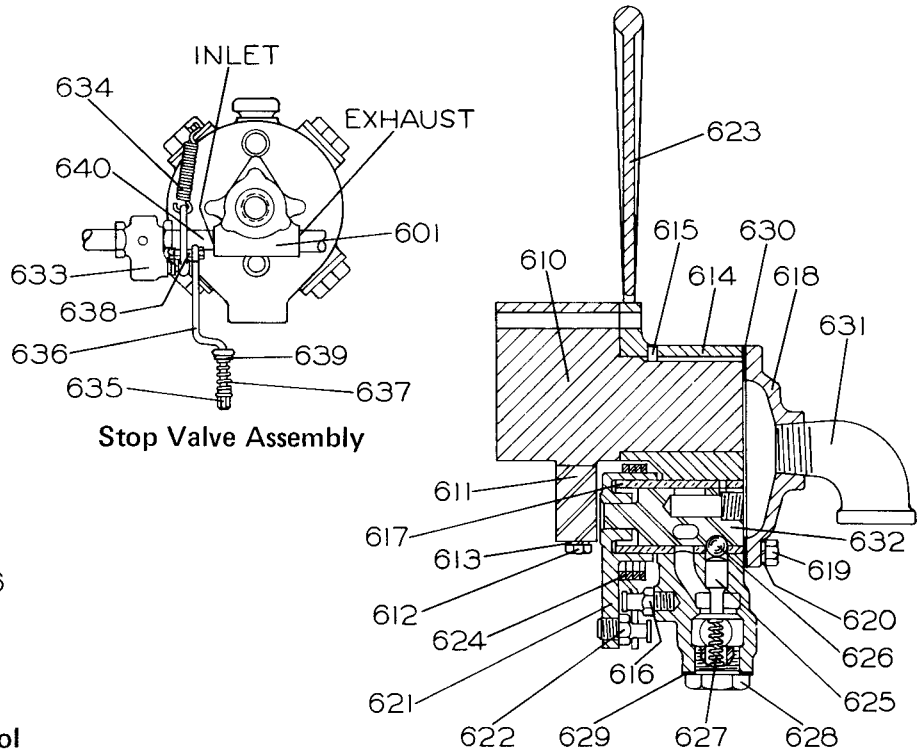
PART NUMBER FOR ORDERING



358	Control Hose Assembly (2)	
	5 ft. length	C6H20A-A930
	Length as specified	C6H20A-AL930
359	1/2" Male Hose Nipple (2 for each Hose)	C6H20A-14
360	Live Air Hose Assembly	
	5 ft. length	C6H20A-A930
	Length as specified	C6H20A-AL930
361	1/2" Male Hose Nipple (2)	C6H20A-14
363	Pendent Throttle Chain (length as specified) (order chain one inch shorter than Live Air Hose)	D01-240
289	S-Hook	D01-221
369	Hose Binder (3)	D10-927
○ 500	Pendent Throttle Handle Assembly	C6H20A-A169
501	Pendent Throttle Lever (2)	C6H20A-273
502	Throttle Lever Pin	C6H20A-281
503	Pendent Throttle Raise Valve Assembly	C6H20A-A164
504	Pendent Throttle Valve Seal Ring (2)	AF160-289
505	Pendent Throttle Lower Valve Assembly	C6H20A-A165
504	Pendent Throttle Valve Seal Ring (2)	AF160-289
506	Pendent Throttle Valve Spring (2)	T01-308
507	Pendent Throttle Valve Cap (2)	C6H20A-180
508	Chain Anchor Pin Lock Screw	H54U-561
*	Throttle Chain Anchor Pin	R4-15

- * Not illustrated.
- Illustrated on page 12.

REMOTE CONTROL



Section Through Remote Control Valve Chest on Hoist Motor

Section Through Control Block Valve Chest on Control Panel

(Dwg. TPC23-2)

PART NUMBER FOR ORDERING

		Series E	Series G
	Remote Control Valve Chest Assembly	D10-A686	D20-A686
601	Remote Control Valve Chest	C10-545	C10-545
602	Rotary Valve Bushing	D10-525A	D10-525A
603	Valve Oiler	JA4-75	JA4-75
604	Bushing Key	B12-255	B12-255
605	Rotary Valve	D10-526	D10-526
606	Rotary Valve Drive Pin	D10-527	D10-527
607	Remote Control Valve Chest Cover	C10-546	C10-546
608	Valve Chest Short Screw (2)	D02-506	D02-506
*	Valve Chest Long Screw (2)	D10-548	D10-548
609	Valve Chest Screw Lock Washer (4)	D02-321	D02-321
	Remote Control Block Assembly	D10-A685	D10-A685
610	Remote Control Block	D10-685	D10-685
611	Control Arm Retainer	D02-687	D02-687
612	Control Arm Retainer Screw (2)	G7-7A	G7-7A
613	Control Arm Retainer Screw Lock Washer (2)	T11-58	T11-58
614	Control Block Valve Chest	D10-876A	D10-876A
615	Bushing Key (2)	B12-255	B12-255
616	Throttle Spring Stop Pin	D02-553	D02-553
617	Control Block Reverse Valve Bushing	D10-945	D10-945
*	Small Grease Fitting	R1-188	R1-188
*	Grease Fitting (2)	23-188	23-188

REMOTE CONTROL (Continued)

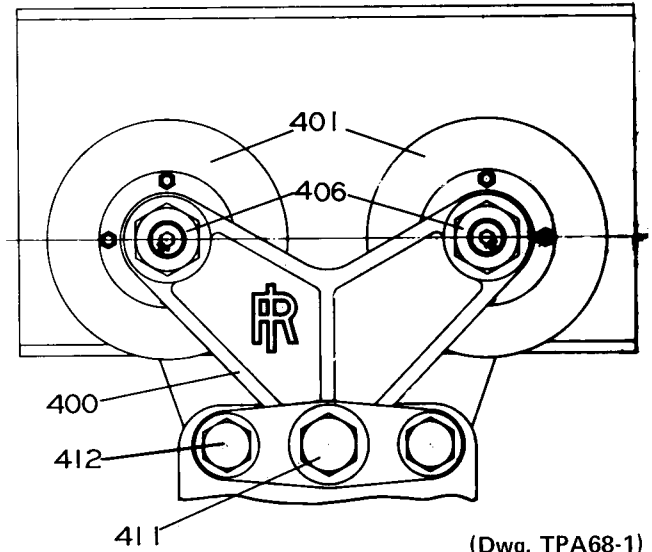
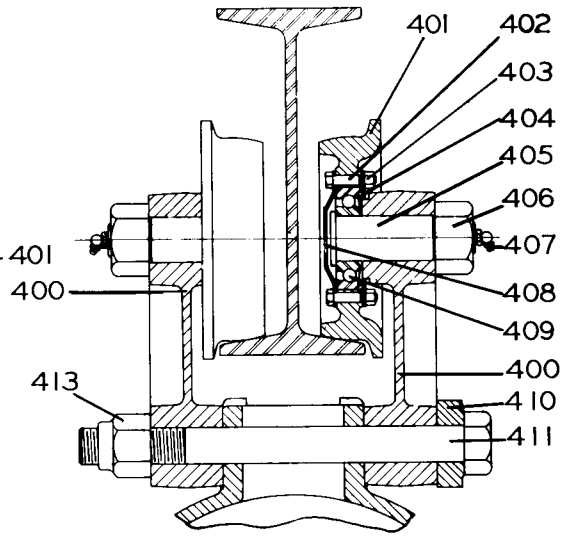
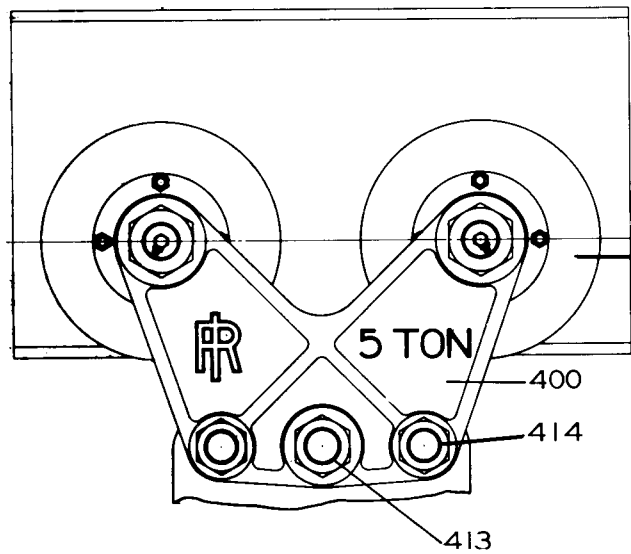
PART NUMBER FOR ORDERING

		↓	↓
		Series E	Series G
618	Control Block Valve Chest Cover	D10-546A	D10-546A
619	Control Block Valve Chest Cover Screw (2)	D02-506	D02-506
620	Cover Screw Lock Washer (2)	D02-321	D02-321
621	Control Block Throttle Arm	D10-555	D10-555
622	Throttle Spring Stop Pin.	D02-553	D02-553
623	Control Block Throttle Lever.	EU-556	EU-556
624	Control Block Throttle Lever Spring.	D02-412B	D02-412B
625	Control Block Poppet Throttle Valve	D02-940	D02-940
626	Control Block Throttle Valve Ball.	D10-280	D10-280
627	Control Block Throttle Valve Spring.	B01-11	B01-11
628	Control Block Throttle Valve Cap.	D02-943	D02-943
629	Control Block Throttle Valve Cap Gasket.	G601-411	G601-411
630	Control Block Valve Chest Cover Gasket	D10-928	D10-928
*	Throttle Lever Bolt (2).	D02-411A	D02-411A
*	Throttle Lever Bolt Nut (2).	D02-418A	D02-418A
*	Valve Chest Plug	22SR-165	22SR-165
631	Exhaust Elbow	DU-587	DU-587
632	Control Block Reverse Valve	D10-944	D10-944
	Stop Valve Assembly.	D10-A988	D20-A988
633	Stop Valve	D02-988	D02-988
634	Valve Return Spring.	D04-249	D04-249
635	Hexagon Nut (5/16"-18 thd.) (4)	D02-428	D02-428
636	Stop Lever Link	D02-924	D20-924
637	Stop Link Spring.	207-357	235-357
638	Stop Lever Link Bolt	20-26	20-26
639	5/16" Plain Washer (1 for Series G; 3 for Series E).	B8-259	B8-259
640	Pipe Nipple (3/4" x 3")	D02-987	D02-987
*	Stop Lever Extension.	- - -	D20-923
*	Stop Lever Extension Bolt	- - -	D10-312
*	Stop Link Bolt Washer	- - -	D02-419
*	Stop Lever Extension Bolt Nut	- - -	D02-418
*	Stop Lever Extension Bolt Lock Washer	- - -	D02-321
*	Reducing Bushing (1" to 3/4")	C10-284	C10-284

* Not illustrated.

Parts are not available for a Control Block Valve Chest incorporating a Tapered-Plug Type Throttle Valve furnished on Hoists under serial 28,000. If any part is required for this type Control Block Valve Chest, the Control Block Valve Chest Assembly listed above must be purchased and installed.

To convert from standard Pull Chain Throttle to Remote Control on Hoist now in service order a Remote Control Valve Chest Assembly, Remote Control Block Assembly and a Stop Valve Assembly.



(Dwg. TPA68-1)

Plain Trolley for Series E Hoist

PLAIN TROLLEY FOR SERIES E HOIST (Continued)

See Page 20 for Illustration.

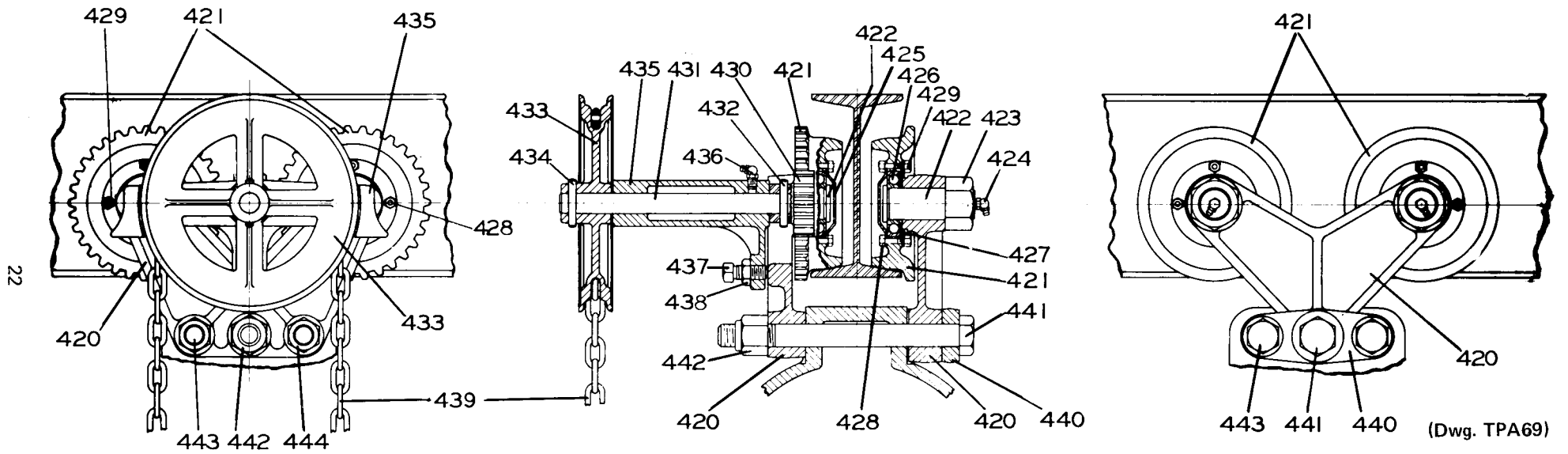
PART NUMBER FOR ORDERING 

PART NUMBER FOR ORDERING 

★	Trolley Assembly	D10-A430B	412	Trolley Bracket Bolt	
	Assembled Trolley Bracket	D10-B427		12" long for 4.00", 4.33" and 4.66"	
400	Trolley Bracket	D10-427		I-Beam Flange (2)	D10-439A-12
401	Trolley Wheel (2 for each Bracket)	D10-431A		14" long for 5.00", 5.50", 6.00" and	
402	5/16" Cap Screw (4 for each Wheel)	D10-957A		6.25" I-Beam Flange (2)	D10-439A-14
403	5/16" Elastic Stop Nut (1 for each			15" long for 7.00" I-Beam Flange (2) .	D10-439A-15
	Cap Screw)	503-639	413	Elastic Stop Nut	D10-959A
404	Bearing Plate (1 for each Wheel)	D10-955	414	Trolley Bracket Bolt Nut (2)	D10-440B
405	Trolley Wheel Shaft (1 for each Wheel)	D10-435A	*	Trolley Bracket Spacer	
406	Trolley Wheel Shaft Nut (1 for each			1/4" long (4 used for spacing Trolley	
	Shaft)	D10-305A		to operate on I-Beam Flange 5.50"	
407	Angle Grease Fitting (1 for each			wide; 8 for Flanges 6.00" wide)	D10-442A-1/4
	Shaft)	23-189		5/8" long (4 used for spacing Trolley	
408	Bearing Cap (1 for each Wheel)	D10-954		to operate on I-Beam Flange 6.25"	
409	Trolley Wheel Bearing (1 for each Wheel)	D10-956		wide)	D10-442A-5/8
410	Trolley Bracket Yoke	D10-952		1" long (4 used for spacing Trolley	
411	Bracket Hinge Pin			to operate on I-Beam Flange 7.00"	
	13-1/4" long for 4.00", 4.33", 4.66",			wide)	D10-442A-1
	5.00" and 5.50" I-Beam Flange	D10-953-13 1/4			
	14-1/4" long for 6.00" and 6.25"				
	I-Beam Flange	D10-953-14 1/4			
	14-3/4" long for 7.00" I-Beam				
	Flange	D10-953-14 3/4			

* Not illustrated.

★ Always specify the flange width of the I-Beam on which Trolley is to operate.



Hand Chain Driven Trolley for Series E Hoist

HAND CHAIN TROLLEY SERIES E HOIST

PART NUMBER FOR ORDERING

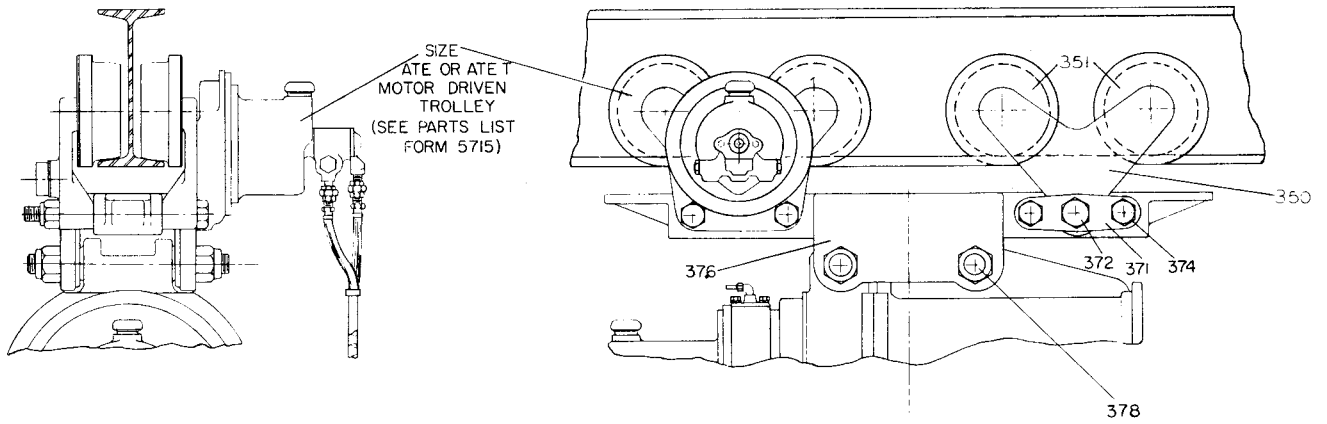
PART NUMBER FOR ORDERING

★	Hand Chain Trolley Assembly	D10-A471B	439	Hand Chain (25 feet)	D02-476
	Assembled Trolley Bracket		440	Trolley Bracket Yoke	D10-952
	Geared Side	D10-G430B	441	Bracket Hinge Pin	
	Plain Side	D10-B427		13-1/4" long for 4.00", 4.33",	
420	Trolley Bracket			4.66", 5.00" and 5.50" I-Beam	
	Geared Side	D10-430B		Flange	D10-953-13 ¹ / ₄
	Plain Side	D10-427		14-1/4" long for 6.00" and 6.25"	
421	Trolley Wheel			I-Beam Flange	D10-953-14 ¹ / ₄
	Geared Side (2)	D10-472A		14-3/4" long for 7.00" I-Beam	
	Plain Side (2)	D10-431A		Flange	D10-953-14 ³ / ₄
422	Trolley Wheel Shaft		442	Elastic Stop Nut	D10-959A
	Geared Side (2)	D10-474A	443	Trolley Bracket Bolt	
	Plain Side (2)	D10-435A		12" long for 4.00", 4.33" and	
423	Trolley Wheel Shaft Nut			4.66" I-Beam Flange (2)	D10-439A-12
	Geared Side (2)	DU-562		14" long for 5.00", 5.50", 6.00"	
	Plain Side (2)	D10-305A		and 6.25" I-Beam Flange (2)	D10-439A-14
*	3/4" Lock Washer (for Geared Side			15" long for 7.00" I-Beam	
	only) (2)	D01-692		Flange (2)	D10-439A-15
424	Angle Grease Fitting (1 for each		444	Trolley Bracket Bolt Nut (2)	D10-440B
	Shaft)	23-189	*	Trolley Bracket Spacer	
425	Bearing Cap (1 for each Wheel)	D10-954		1/4" long (4 used for spacing	
426	Trolley Wheel Bearing (1 for each			Trolley to operate on I-Beam	
	Wheel)	D10-956		Flange 5.50" wide; 8 for Flanges	
427	Bearing Plate (1 for each Wheel)	D10-955		6.00" wide)	D10-442A-1/4
428	5/16" Cap Screw (4 for each Wheel)	D10-957A		5/8" long (4 used for spacing	
429	5/16" Elastic Stop Nut (1 for each			Trolley to operate on I-Beam	
	Cap Screw)	503-639		Flange 6.25" wide)	D10-442A-5/8
430	Drive Pinion	D02-473		1" long (4 used for spacing	
431	Chain Sprocket Shaft	D02-475		Trolley to operate on I-Beam	
432	Taper Pin	D02-520		Flange 7.00" wide)	D10-442A-1
433	Chain Sprocket	D02-470	*	Drive Pinion Spacer	D02-442A-1/4
434	Taper Pin	D02-520			
435	Chain Sprocket Bracket	D04-471			
436	Angle Grease Fitting	23-189			
437	Bracket Set Screw	D02-480A			
438	Bracket Set Screw Nut	G7-18			

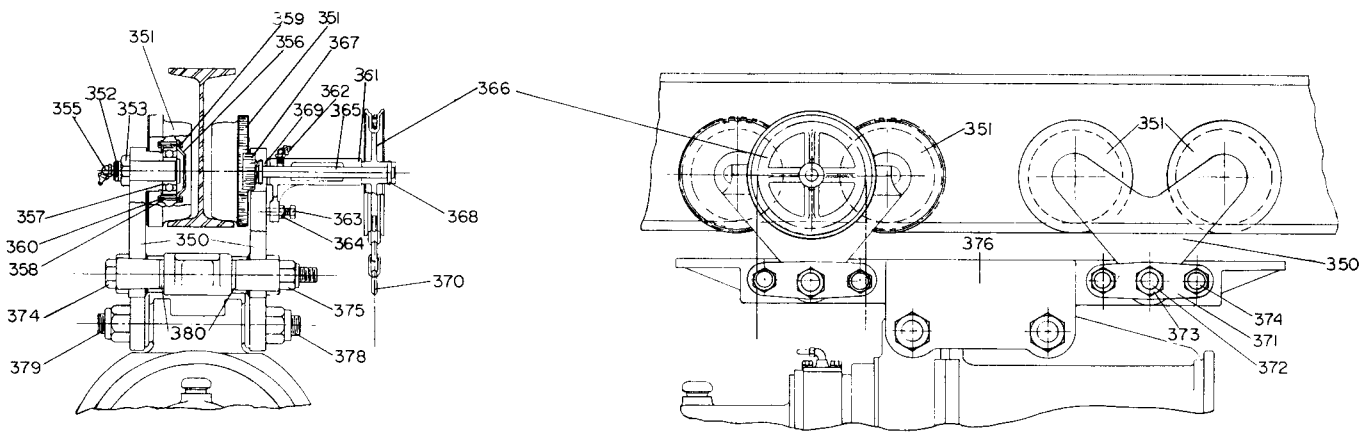
* Not illustrated.

★ Always specify the flange width of the I-Beam on which Trolley is to operate.

PLAIN AND HAND CHAIN TANDEM TROLLEY FOR SERIES G HOIST



Motor Driven Tandem Trolley for Series G Hoist



Hand Chain Driven Tandem Trolley for Series G Hoist

(Dwg. TPA448)

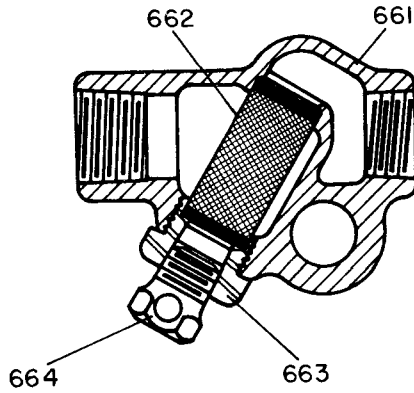
PART NUMBER FOR ORDERING



		For I-Beams	For Flat-Tread Monorails
	Assembled Trolley Bracket with Gear-type Trolley Wheels (for Hand Chain Trolley)	D20-G427	D20-GT427
	with Plain Trolley Wheels (2; one additional for Hand Chain Trolley)	D20-B427	D20-BT427
350	Trolley Bracket	D20-427	D20-427
351	Trolley Wheel (2)		
	Gear-type (for Hand Chain Trolley)	D10-572A	D10-T472
	Plain	D10-431A	D10-T431
352	Trolley Wheel Shaft (2)		
	Geared Side	D10-474A	D10-474A
	Plain Side	D10-435A	D10-435A
353	Shaft Nut (2)		
	Geared Side (3/4"-10 thd.)	DU-562	DU-562
	Plain Side (1/2"-12 thd.)	D10-305A	D10-305A
*	3/4" Lock Washer (2) (for Geared Side)	D01-692	D01-692
355	Angle Grease Fitting (2)	23-189	23-189
356	Bearing Cap (2)	D10-954	D10-954
357	Trolley Wheel Bearing (2)	D10-956	D10-956
358	Bearing Plate (2)	D10-955	D10-955
359	Cap Screw (8) (5/16"-24 thd. x 1-1/2")	D10-957A	D10-957A
360	Elastic Stop Nut (8) (5/16"-24 thd.)	503-639	503-639
	Chain Sprocket, Bracket and Pinion Assembly	D20-B471	D20-BT471
361	Chain Sprocket Bracket Assembly	D04-471	D04-471
362	Angle Grease Fitting	23-189	23-189
363	Bracket Set Screw	D02-480A	D02-480A
364	Set Screw Nut	G7-18	G7-18
365	Chain Sprocket Shaft	D02-475	D10-T475
366	Chain Sprocket	D02-470	D02-470
367	Drive Pinion	D02-473	D02-473
368	Taper Pin (2)	D02-520	D02-520
369	Drive Pinion Spacer	D02-442A-1/4	D02-442A-1 3/32
370	Hand Chain		
	25 ft. Length	D02-476	D02-476
	Length as specified	D02-L476	D02-L476
371	Trolley Bracket Yoke (2 for plain and 2 for chain unit)	D10-952	D10-952
372	Bracket Hinge Pin (1 for plain and 1 for hand chain unit)		
	14" long	D20-953-14	D20-953-14
	14-1/2" long	D20-953-145	— — —
	15" long	D20-953-15	— — —
	15-1/4" long	D20-953-152	— — —
	16" long	D20-953-16	— — —
373	Hinge Pin Nut (2 for each Hinge Pin) (1-1/4"-7 thd. Elastic Stop Nut)	D10-959A	D10-959A
374	Trolley Bolt (2 for plain and 2 for hand chain unit)		
	14" long	D10-439A-14	D10-439A-14
	15" long	D10-439A-15	— — —
	16" long	D20-439-16	— — —
375	Trolley Bolt Nut (1-1/8"-7 thd.) (one for each Bolt)	D10-440B	D10-440B
376	Load Bar	D20-929	D20-929
378	Load Bar Bolt (2) (1-1/2"-6 thd. x 13" lg.)	D20-359	D20-359
379	Load Bar Bolt Nut (4) (1-1/2"-6 thd. Elastic Stop Nut)	D20-341A	D20-341A
380	Trolley Bracket Spacer		
	1/4" long	D10-442A-1/4	— — —
	3/8" long	— — —	D10-442-3/8
	5/8" long	D10-442A-5/8	D10-442A-5/8
	1" long	D10-442A-1	— — —

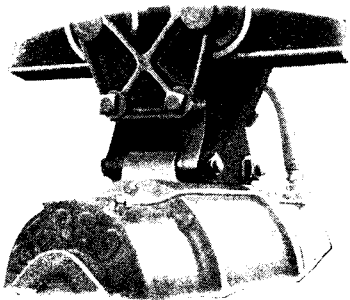
* Not illustrated.

SPECIAL EQUIPMENT AND ACCESSORIES

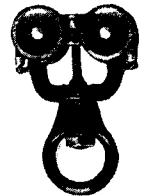


**Air Strainer Assembly
Illustration No. 661**

(Dwg. TPD36)



**90° Angle Attachment
Illustration Nos. 665,
666 and 667**



**Hose Trolley, Track and Bracket
Illustration Nos. 669, 670 and 671**



**Exhaust Muffler
Illustration No. 668**

PART NUMBER FOR ORDERING

661	Air Strainer Assembly	EU-A267
662	Air Strainer Screen	P25-61A
663	Air Strainer Cap	P25-268
664	Air Strainer Plug	P25-536
*	Air Strainer Nipple (required for attaching Air Strainer Assembly to Hoist)	D02-456
665	90° Angle Attachment	D10-444B
666	Angle Attachment Bolt (2)	D10-439A-11
667	Angle Attachment Bolt Nut (2)	D10-440B
668	Exhaust Muffler	D02-674A
*	Muffler Nipple	P35-286
*	Muffler Chain	D02-673
*	Muffler Chain S-Hook (2)	D02-421
669	Hose Trolley	D02-730A
670	Hose Trolley Track (10 ft. length)	D02-731A
671	Hose Trolley Track Bracket	D02-732A

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