

Form P6457 Edition 1

PART

BULLETI

OVERHEAD HOISTS

SIX CYLINDER AIR MOTOR
FIVE TON CAPACITY

Series D6100A and D6100B

SIX TON CAPACITY

Series D6120A

WARNING

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

HOW TO ORDER

Order all repair parts for your Ingersoll-Rand Tool by the NAME and NUMBER shown in the Repair Part List section. Never use the illustration numbers which appear in the first column.

For prompt service and genuine Ingersoll-Rand parts, place orders with the nearest Ingersoll-Rand Office or Authorized Distributor.

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.

Refer All Communications to the Nearest Ingersoll-Rand Office or Distributor.

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SIZE SYMBOLS OF HOISTS COVERED IN THIS MANUAL

Five-Ton Hoists

Standard Headroom and Standard Construction

D6100A17

D6100A26

D6100B15

D6100B24

Six-Ton Hoists

Standard Headroom and Standard Construction

D6120A17

D6120A26

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.

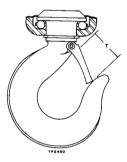
A qualified operator must be physically competent. He must have no health condition which might affect his ability to react, and he must have good hearing, vision and depth perception. The qualified Hoist operator must be carefully instructed in his duties and must understand the operation of the Hoist, 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 the 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. Lubrication according to manufacturer's instructions.
- b. Brakes: Visually check for proper adjustment (see Brake Adjustment on page 8). 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 and 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.

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 hook 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.



	"T" Throat Opening			ıg		Ţ" "	"T" Throat Opening			
Hook No.	Ne	ew	Discard		Hook No.	New		Discard		
	in	mm	in	mm		in	mm	in	mm	
D10-AS377	2-1/2	64	2-7/8	73	D10-AS1377	2-1/4	57	2-5/8	67	

- d. Controls: See that the 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 suspension 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, dye penetrant or other crack detection means.
- 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 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 tipload 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 a 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.

INSTALLATION

WARNING: Before shipment, all oil was drained from the Motor Case (1). A quantity of oil sufficient for one filling is packed with the Hoist. Before operating the Hoist, close the Oil Cock (2) at the bottom of the Motor Case, remove the Vent Cap (3), and pour the entire contents of the can into the Motor Case. Remove the large pipe plug from the top of the Gear Case (164 or 187) and replace it with the Gear Case Vent Cap (218).

Proper installation is a prime factor in safe, efficient and trouble free operation. The following standards should be followed in planning and execution:

- 1. Hoist Support: Install the Hoist only after determining that the support is ample for loadings equal to at least five times the combined weights of the Hoist and rated load.
- 2. Air Supply: Compressor and supply line must have the capacity to maintain 80 psi (551 kPa) air pressure at the air inlet of the Hoist. We recommend:
 - a. 1" (25 mm) diameter, or larger, pipe or hose for the supply line.
 - b. That a No. EU-A267 Air Strainer, or a No. NFLU-16 Filter-Lubricator Unit be installed as closed as practical to the Hoist. NOTE: Use of a Lubricator is not a substitute method of lubricating the Motor. Instead it supplements the crank splash system. Procedures outlined under Lubrication must be followed even though air line lubrication is provided.
 - c. Using some type of support for supply hose to protect it and keep it out of the way. An Ingersoll-Rand AHC Hose Carrier is the finest system available. Hose Trolleys that operate on I-Beams or that operate on a special track are also available from Ingersoll-Rand. Various hose reels are also on the market. The Ingersoll-Rand Sales Engineer will be glad to assist you.
- 3. Lug Mounting: Design and construct mounting in accordance with the following standards:
 - a. Use bolts of maximum diameter that will pass through holes in mounting boss on the Hoist.
 - b. Use a lug or plate on each side of the boss.
 - c. Bolt lugs or plates solidly to the Hoist and support. If necessary, use spacers to maintain lugs parallel to each other.
 - d. Mounting must hold the Hoist so that the longitudinal centerline of the drum is level.
- 4. Top Hook: Be sure the support rests completely within the saddle of the hook and that it is centered directly above the the hook shank. Do not attach the hook to any support that causes the Hoist to cant in any direction.
- 5. Trolleys: Make certain the trolley is correct for the track.

All Ingersoll-Rand Trolleys shipped with a new Hoist are adjusted at the factory to fit the minimum width beam flange on which the Trolley will operate. When disassembling the Trolley for installation on the beam, note the exact arrangement of spacers so that the Trolley can be correctly reassembled.

For installation on a beam flange other than that for which the Trolley is pre-adjusted, measure the beam flange and temporarily install the Trolley on the Hoist to determine the exact distribution and arrangement of the spacers.

The distance between the wheel flanges should be 3/16" greater than the width of the beam flange for straight runway beams, and 3/16" to 1/4" greater in a runway system that includes sharp curves. The number of spacers between the Trolley Bracket and the mounting lug on the Hoist should be the same in all four locations in order to keep the Hoist centered under the I-beam. The remaining spacers must be equally distributed on the outside of the Trolley Bracket. At least one spacer must be installed between each bolt head and Trolley Bracket, and each nut and Trolley Bracket.

a. Use a 90° Angle Attachment if the application requires that the rope drum be at right angles to rather than in line with the track. The Attachment can be used on any Hoist having a single mounting boss, except those with 2-part single reeving.

- b. Slowly move the Hoist (without load) from one end of the track to the other to ascertain that there is proper clearance and that the trolley operates smoothly. Apply a load to the Hoist and repeat.
- c. Provide stops on the track to prevent overtravel. Note: The stops should not contact the trolley wheels.
- 6. Muffler: A chain is furnished with each Ingersoll-Rand Muffler. Secure the end of the chain under a cap screw so that the Muffler will not fall should it loosen or be broken from the Hoist.

LUBRICATION

Recommended Lubricants: (See special instructions for Hoists with Dual Brakes.)

Motor and Gearing

For ambient temperatures of 30°F to 80°F (-1.1 to 26.6°C), use Ingersoll-Rand Medium Oil No. 50, or SAE 30 Motor Oil.

For ambient temperatures below 30°F (-1.1°C), use SAE 20 or 20W Motor Oil.

For ambient temperatures above 80°F (26.6°C), use SAE 40 Motor Oil.

For Hoists with Dual Brakes, use Ingersoll-Rand No. 10 Oil in the Gear Case to obtain proper load brake functioning. Note: An acceptable substitute for Ingersoll-Rand Oil No. 10 is Texaco Rando* Oil AA, or equivalent.

Sheaves, Valve Chest and Trolley Wheels:

Use Ingersoll-Rand Lubricant No. 28 or No. 2 Multi-Purpose Grease.

Maintain Oil Level in Motor Case and Gear Case

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

- 1. After the Hoist has been idle for several hours, open the Oil Cock (2) at the bottom of the Motor Case (1) and allow the accumulated water to drain out; then close.
- 2. Open the Oil Cock in the side of the Motor Case and unscrew the Vent Cap (3) from the top of the Motor Case.
- 3. Add sufficient oil through the top opening to raise the oil level to the line on the sight glass or even with the open Oil Cock in the side of the Motor Case.

At regular intervals, check the Oil Level Gauge in the Gear Case or Gear Case Cover. If necessary, add the recommended oil to maintain the oil level at the line on the glass.

Weekly, or as experience indicates, inject 2 or 3 strokes of the recommended grease into all Grease Fittings.

MAINTENANCE

Keep the Wire Rope tightly wound on the grooved Rope Drum (108). Before putting a grooved-drum 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 operation, if the Hoist is used primarily for lowering loads, the Wire Rope tends to uncoil. If not corrected, loops will form which may in time cross over one another and cause serious damage.

Adjustment of Diaphragm Brake

Screw the Brake Adjusting Nuts (177) along the brake plate studs until there is 1/32" to 1/16" play of the Brake Plunger (182) on the studs.

Mechanical Load Brake Adjustment

Remove the Adjusting Nut Lock (194) and with a screwdriver, turn the Brake Adjusting Nut (193) clockwise until a heavy drag is felt, then back the Nut off five (5) notches. Replace the Adjusting Nut Lock making sure it enters one of the notches in the Adjusting Nut.

* Registered trademark of Texaco, Inc.

Hook Replacement

In the original design, and continuing into 1975, the Hook Nut was locked on the shank of the Hook by upsetting the end of the shank after the Hook was installed in the Sheave Block or Top Hook Yoke. This is an effective method of locking, but makes removal difficult if the Hook or Bearing must be replaced. Because of this, the Hook shank has been modified to include a cross hole, the Nut has been changed to a slotted type, and a Lock Pin is used. The new style parts can be used, in combination, to replace the previous parts in the original Sheave Block or Yoke. To facilitate the installation of the Lock Pin, the small hole in the side of the Block now being furnished has been relocated to align with the cross hole in the hook shank. When installing a Lock Pin in an old style Sheave Block, it may be necessary to drill a hole to facilitate installation.

Reverse Valve Removal

Unscrew the Throttle Valve Cap (49) and withdraw the Spring (48), Poppet Throttle Valve (43) and Ball (47) before attempting to withdraw the Reverse Valve (41) from the Reverse Valve Bushing (29).

Valve Chest Removal

Use two No. D02-932 Valve Chest Jack Bolts (1/2"-13 thd. x 5-1/4" long) to remove the Valve Chest (27) from the Motor Case (1).

Removal and Installation of the Reverse Valve Bushing

When pressing the Reverse Valve Bushing (29) from the Valve Chest (27), use an arbor that will clear the Bushing Key that projects into the valve chest bore. Always press against the bushing that is flush with the cover side of the Valve Chest.

Always press a new Bushing, grooved end first, into the motor case side of the Valve Chest, making certain that the groove along the side of the Bushing is aligned with the Bushing Key. Press in the new Bushing until its leading face is flush with the cover side of the Valve Chest. Insert No. 23470 Throttle Valve Stem Reamer into the bottom bore of the Valve Chest from which the Poppet Throttle Valve was removed, and ream the hole in the wall of the Bushing to .505". If the Reverse Valve fits too tightly in the new Bushing, ream the Bushing 1.625".

Motor Removal

Should it ever become necessary to remove the motor for repair or replacement of parts, do not remove the Stop Lever Bracket Screws (107). These Screws will retain the Motor Case Cover (101) on the Hoist Housing (100) so that the motor can be removed without disturbing the Rope Drum (108) and related parts.

Crank Assembly

The two sections of the Crank (9) are joined and marked before final machining; only those parts with identical markings can be used together. If two or more Cranks are disassembled at the same time, be certain that only parts with identical markings are assembled together. Use a new Crank Taper Pin (10) each time a Crank is reassembled. Lightly strike the large end of the Crank Taper Pin to seat it in the Crank, and then spread the split end of the Pin.

Gear Case and Gearing

The Secondary Ring Gear (114) is retained on the Housing by two socket head Ring Gear Retaining Screws so that the Gear Case (164 or 187) can be removed from the Hoist without disturbing the Rope Drum (108) and related parts.

To remove a Planet Gear Shaft (123 or 163) from a Gear Frame (117 or 156), support the Gear Frame, shaft or pinion end up, and press out the Planet Gear Shaft.

CAUTION: Should it become necessary to replace the Secondary Planet Gears (121) in a Size D6100B15 or D6100B24 Hoist, be sure to use only Gear No. D6100B-A779 that is made of heat treated steel.

Prior to the introduction of Sizes D6100B15 and D6100B24 all other Hoists covered by this Part List used Secondary Planet Gears (Part No. C6H40A-A779) that were machined from pearlitic malleable iron castings.

Dimensionally the two Gears are alike, and hereafter only the Steel Gear will be produced.

There are holes through the web of the cast iron gear and not through the web of the steel gear. This difference provides a means of quick and positive identification.

Before installing the Planet Gear Shaft in the Gear Frame, note that one end of the Planet Gear Shaft is beveled 30° and the other end 45°. Support the Gear Frame, shaft or pinion end down. Enter the 30° beveled end of the Planet Gear Shaft into the Gear Frame and press the Shaft into the Frame until the trailing end is flush with the Gear Frame face.

Press the Drum Bearing Gear End (112) into the recess in the Secondary Ring Gear (114) and press the Bearing and Secondary Ring Gear onto the Secondary Gear Frame Assembly (117).

Align one of the Round Cam Followers (in the Roller Carrier) with the Vent Cap and slide the Carrier (208) into the Gear Case (187). Rotate the Carrier counterclockwise until the Cam Followers are at the lowest points on the Load Brake Cam (205).

Slip the Primary Ring Gear (170) over the pinion end of the Primary Gear Frame Assembly (156) aligning the "X" on each Primary Gear (160) with the "X's" on the Ring Gear.

Install the Primary Gear Frame Assembly and Ring Gear as a unit into the Gear Case aligning the notch in the Ring Gear with the Ring Gear Stop (154). Rotate the Ring Gear counterclockwise until it is stopped by the Ring Gear Stop so that the Cam Followers are at the lowest point on the Load Brake Cam (205).

In the stated sequence, install the following parts into the Gear Case: Brake Thrust Plate (212) flat surface trailing, Slip Disc (216), Slip Plate (215), one Friction Disc (213), one Brake Plate (211), one Friction Disc (213), and one Brake Plate (211).

Before installing the Gear Case Cover (188) on the Gear Case make sure that the face of the Brake Adjusting Nut (193) is flush or below the face of the Gear Case Cover.

BALANCE PARTS

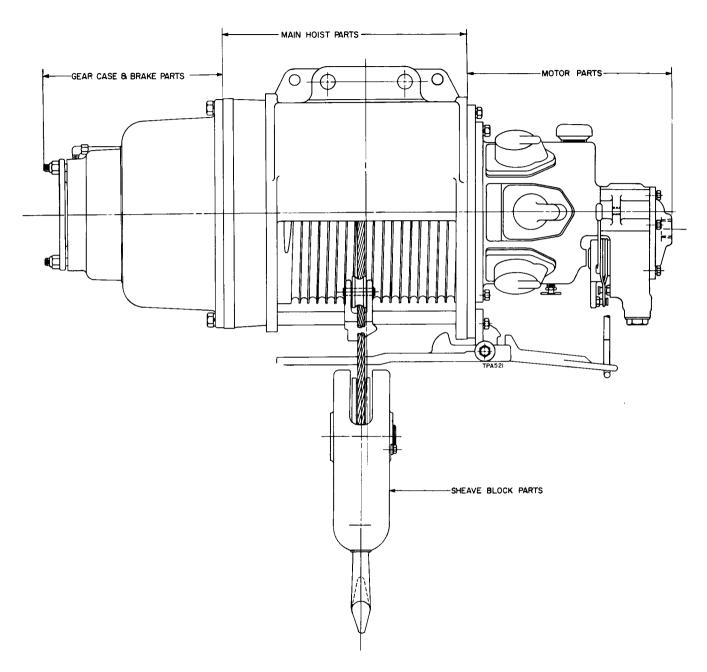
The counterweight arrangement illustrated on page 33 was adopted for certain Sizes to obtain better balance by shifting the air motor farther from the suspension, thereby offsetting the weight of heavy parts concentrated in the gear case.

Since unbalance is not a problem for a trolley-supported Hoist mounted lengthwise beneath the track, the Balance Parts are only necessary for a Low Headroom Hoist, or a Standard Headroom Hoist with Top Hook or 90° Angle Attachment.

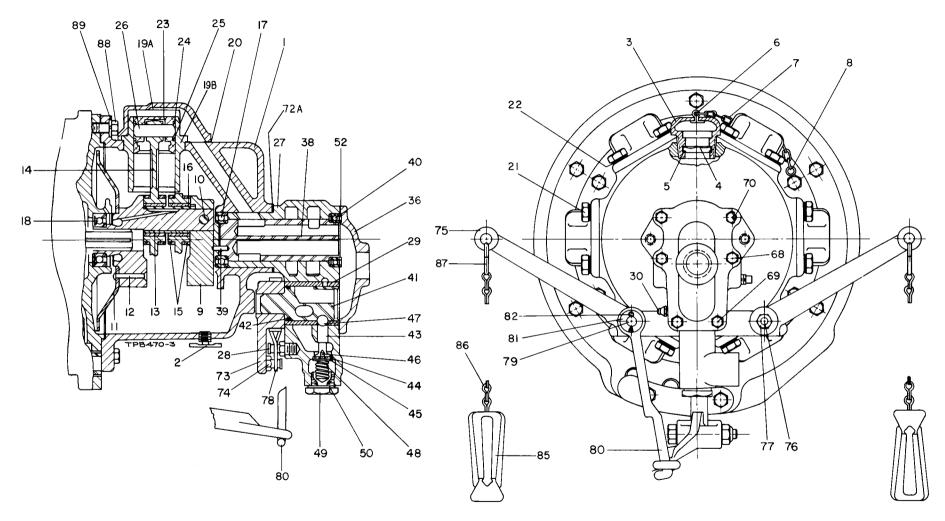
Balance Parts and corresponding standard parts are interchangeable in sets.

MAINTENANCE TOOLS

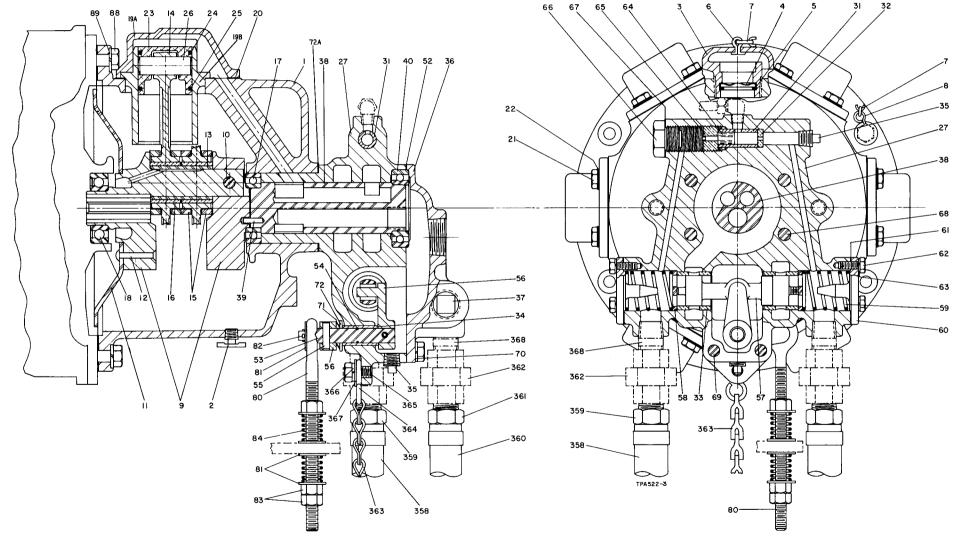
TOOL NUMBER FOR ORDERING	TOOL NAME FOR ORDERING	OPERATION
P25-228	Grease Gun	Lubrication
D02-932	Valve Chest Jack Bolt (2 required)	Removing the Valve Chest (27) from the Motor Case (1).
D06-933	Piston Ring Compressor	Compressing the Piston Rings (24 and 25) when installing a Cylinder (19).
23470	Throttle Valve Stem Reamer	Reaming the throttle valve stem hole in the Reverse Valve Bushing (29 or 402) after installing a new Bushing in the Valve Chest (27) or Control Block Valve Chest (401).
43051	Brake Valve Bushing Inserting Tool	Installing a new Brake Valve Bushing (31) in the Valve Chest (27).
71869	Shuttle Valve Bushing Inserting Tool	Installing a new Shuttle Valve Bushing (33) in the Valve Chest (27).
75751	Shuttle Valve Chest Bushing Reamer	Reaming new Shuttle Valve Bushings (33) to size after pressing them into the Valve Chest (27).



Typical Ingersoll-Rand Overhead Hoist



Six Cylinder Hoist Motor with Pull Chain Throttle Valve Chest



Six Cylinder Hoist Motor with Pendent Throttle or Remote Control Valve Chest

MOTOR PARTS

	MOTOR PARTS	PAR	T NUMBER FOR ORDE	RING
			TYPE OF CONTROL	
			PENDENT TH REMOTE	IROTTLE OR CONTROL
		PULL-CHAIN THROTTLE	For Hoist Equipped With Mechanical Load Brake Only	For Hoist Equipped With Diaphragm Brake, or Both Diaphragm and Mechanical Load Brakes
	Motor Assembly for Series D6 Hoist equipped with Mechanical Load Brake for Series D6 Hoist equipped with Diaphragm Brake	D6H60A-A501 D6H60A-DA501	D6H60A-PMA501	D6H60A-PDA501
1 2 3 4 5 6	for Series D6 Hoist equipped with both Diaphragm and Mechanical Load Brakes	D6H60A-A501 C6H20A-B501 D02-308 D02-303A D02-889 6CND-233-1/2 D02-893 D02-891	C6H20A-B501 D02-308 D02-303A D02-889 6CND-233-1/2 D02-893 D02-891	D6H60A-PDA501 C6H20A-B501 D02-308 D02-303A D02-889 6CND-233-1/2 D02-893 D02-891
8 9 10 11	S-Hook	D02-421 C6H20A-A516 C6H20A-B516 D10-520 C6H20A-540	D02-421 C6H20A-A516 C6H20A-B516 D10-520 C6H20A-540	D02-421 C6H20A-A516 C6H20A-B516 D10-520 C6H20A-540
12 13 14 15	Oil Splasher Rivet (3)	C6H20A-541 C6H20A-519 C6H20A-509 C6H20A-510 C6H20A-511	C6H20A-541 C6H20A-519 C6H20A-509 C6H20A-510 C6H20A-511	C6H20A-541 C6H20A-519 C6H20A-509 C6H20A-510 C6H20A-511
• 16 • 17 • 18 19	Connecting Rod Bushing (2)	C6H2OA-511 C6H2OA-518 C04-318 D6H6OA-A505A D6H6OA-H505A	C6H2UA-511 C6H2UA-518 C04-318 D6H6UA-A505A D6H6UA-H505A	C6H2UA-511 C6H2OA-518 C04-318 D6H6OA-A505A D6H6OA-H505A
19A 19B • 20 21 22	Sleeve (one for each Cylinder)	D6H60A-L505A C6H20A-507 D02-506 D02-504	D6H60A-L505A C6H20A-507 D02-506 D02-504	D6H60A-L505A C6H20A-507 D02-506 D02-504

[•] To keep downtime to a minimum, it is desirable to have on hand certain repair parts. We recommend that you stock one (pair or set) of each part indicated by a bullet (•) for every four tools in service.

MOTOR PARTS (Continued)

		*	T NUMBER FOR ORDE	V
			TYPE OF CONTROL	
			PENDENT THE REMOTE	
		PULL-CHAIN THROTTLE	For Hoist Equipped With Mechanical Load Brake Only	For Hoist Equipped With Diaphragm Brake, or Both Diaphragm and Mechanical Load Brakes
23 • 24 • 25 26 *	Piston Assembly (6)	D6H60A-A513A D04-337A D04-338 D04-514A R3820-340	D6H60A-A513A D04-337A D04-338 D04-514A R3820-340	D6H60A-A513A D04-337A D04-338 D04-514A R3820-340
	for Hoist with Mechanical Load Brake	C6H20A-A545 C6H20A-DA595 C6H20A-A545	C6H2OA-A245	C6H20A-A45 C6H20A-A45
27	Valve Chest Assembly	C6H20A-B545	С6Н20А-В245	C6H20A-B45
28	Throttle Lever Spring Stop Pin	D02-553		
• 29 *	Reverse Valve Bushing	C6H20A-945		
30	Reverse Valve Bushing Key	D02-538 R1-188		
31	Brake Valve Bushing	K1-100		D10-63
32	Brake Valve Disc			D10-44
• 33	Shuttle Valve Bushing (2)		C6H20A-247	C6H20A-247
34	Stop Arm Shaft Bushing		C6H20A-243	C6H20A-243
35	1/4" Pipe Plug (1 additional for Hoist with Diaphragm Brake)	0011201 546	D02-402	D02-402
36 37	Valve Chest Cover	C6H20A-546	C6H20A-241 22SR-165	C6H20A-241 22SR-165
38	Rotary Valve Assembly	C6H20A-A526	C6H20A-A526	C6H20A-A526
39	Rotary Valve Pin	510-669A	510-669A	510-669A
• 40	Rotary Valve Bearing	R4800-97	R4800-97	R4800-97
41	Reverse Valve Assembly for Hoist with Mechanical Load Brake or both Mechanical Load Brake			
	and Diaphragm Brake	C6H2OA-A944		
• 42	for Hoist with Diaphragm Brake	C6H20A-A744 C6H20A-948		
42	Poppet Throttle Valve Assembly	C6H2UA-948 C6H2OA-A940		
• 44	Poppet Throttle Valve Face	C6H20A-259		

^{*} Not illustrated

[•] To keep downtime to a minimum, it is desirable to have on hand certain repair parts. We recommend that you stock one (pair or set) of each part indicated by a bullet (•) for every four tools in service.

MOTOR PARTS (Continued)

	MOTORTARTS (Continue		T NUMBER FOR ORDE	RING
			TYPE OF CONTROL	
			1	HROTTLE OR CONTROL
		PULL-CHAIN THROTTLE	For Hoist Equipped With Mechanical Load Brake Only	For Hoist Equipped With Diaphragm Brake, or Both Diaphragm and Mechanical Load Brakes
45 46 47 • 48 49 • 50 * • 52 53 • 54 55 56 57 58 • 59 60 • 61 62 63 64 65 66 • 67 68 69 70 • 71	Valve Face Cap Valve Face Cap Screw (No. 8-32 thd. x 3/8" long) Throttle Valve Ball (1/2" dia. steel ball) Throttle Valve Spring Throttle Valve Cap Throttle Valve Cap Gasket Brake Inlet Plug (1/8" pipe plug) Valve Chest Cover Gasket Stop Arm Shaft Assembly Stop Arm Shaft Fin (2) Stop Arm Shaft Plin (2) Shuttle Valve Shuttle Valve Washer (2) Shuttle Valve Washer (2) Shuttle Valve Spring (2) Shuttle Valve Cap Gasket (2) Shuttle Valve Cap Gasket (2) Shuttle Valve Cap Gasket (6) Brake Valve Brake Valve Brake Valve Cap Brake Valve Cap Brake Valve Cap Gasket Valve Chest Screw (4) (3/8"-16 thd. x 4" long) Valve Chest Cover Screw (2) (3/8"-16 thd. x 7/8" long) 3/8" Lock Washer (6) Friction Spring	588-157 R10V-404 D10-280 B01-11 C6H20A-943 D02-239 P250-368 C6H20A-928	C6H2OA-236 C6H2OA-255 R000BR-210 D01-256 C6H2OA-254 C6H2OA-246 C6H2OA-248 C6H2OA-238 C6H2OA-239 R2N-103 L01-67	C6H20A-236 C6H20A-255 R000BR-210 D01-256 C6H20A-254 C6H20A-246 C6H20A-248 C6H20A-238 C6H20A-239 R2N-103 L01-67 D10-62 D01-65 D01-943 D01-946 C6H20A-548 D02-506 D02-321 D01-268
72 72A	Friction Spring Washer	C6H20A-128	23-725 C6H20A-128	23-725 C6H20A-128

^{*} Not illustrated.

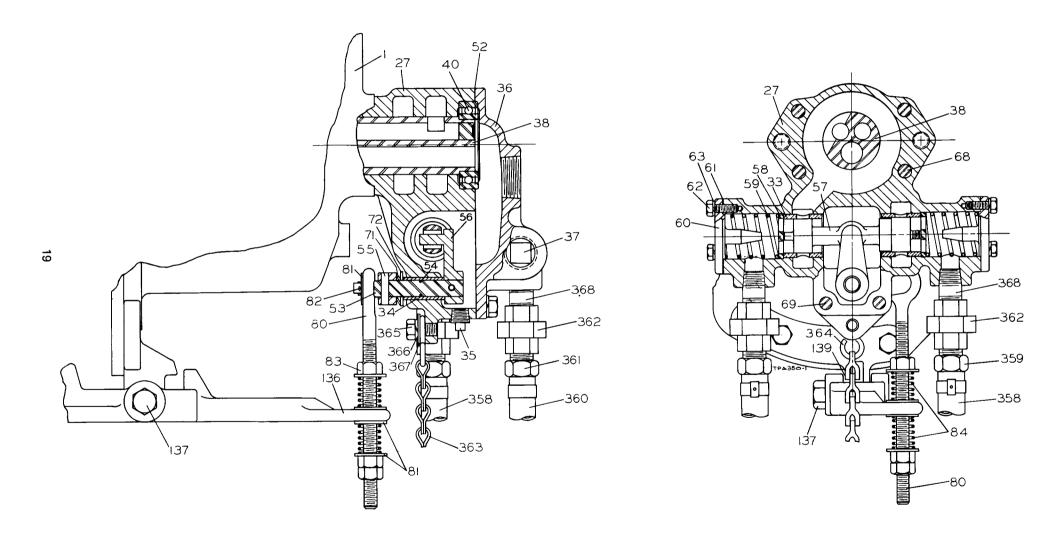
[•] To keep downtime to a minimum, it is desirable to have on hand certain repair parts. We recommend that you stock one (pair or set) of each part indicated by a bullet (•) for every four tools in service.

MOTOR PARTS (Continued)

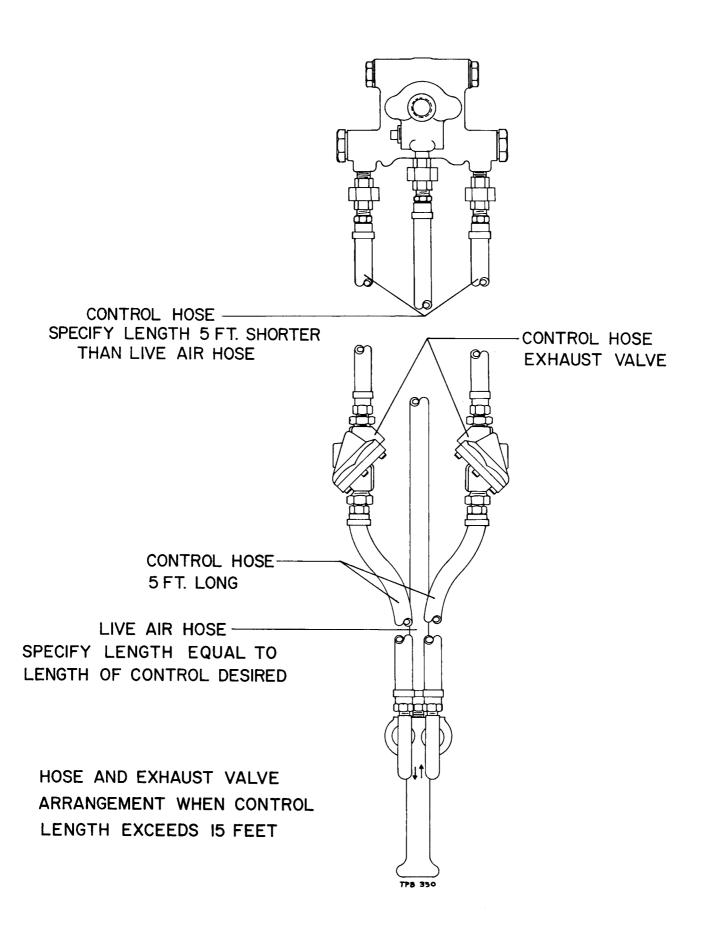
	WOTOR PARTS (Continue		RT NUMBER FOR ORDE	RING	
			TYPE OF CONTROL		
		PENDENT TH		HROTTLE OR CONTROL	
		PULL-CHAIN THROTTLE	For Hoist Equipped With Mechanical Load Brake Only	For Hoist Equipped With Diaphragm Brake, or Both Diaphragm and Mechanical Load Brakes	
73 74 75	Throttle Control Arm Assembly Throttle Lever Spring Stop Pin Throttle Lever (2)	C6H20A-A555 D02-553			
76	Throttle Lever (2)	D02-556 D02-411A			
77	Throttle Lever Bolt Nut (2) (1/2"-13 thd. jam nut)	D02-411A D02-418A			
• 78	Throttle Lever Spring	D02-412B			
79	Stop Link Bolt	D02-523			
80	Stop Lever Link				
	Standard	C6H40A-424	C6H40A-224	C6H40A-224	
	Spark-resistant	C6H40A-R424	C6H40A-R224	C6H40A-R224	
81	Stop Link Washer (5 for Hoist with Pendent Throttle: 1 for others).	D02-419	D02-419	D02-419	
82	Stop Link Collar	D02-524	D02-524	D02-524	
83	Stop Link Nut (3/8"-16 thd.) (3)		D02-418	D02-418	
• 84	Stop Lever Link Spring (2)		D02-106	D02-106	
85 86	Throttle Handle (2)	MR-415			
00	Pull Chain (2) (length as specified)				
	Standard	D02-B413			
87	Spark-resistant	D02-B1413			
88	S-Hook (2 for each Pull Chain)	D02-421			
89	Motor Case Screw (6) (3/8"-16 thd. x 1-1/8")	D10-312A	D10-312A	D10-312A	
*	Lock Washer (16) (3/8")	D02-321	D02-321	D02-321	
*	Nameplate Screw (4)	D01-99	D01-99	D01-99	
*	Caution Plate	R4K-302	R4K-302	R4K-302	
*	Caution Plate Screw (4)	TA-147A R4K-302	TA-147 A	TA-147A	
*	Hoist Nameplate	C6H2OA-301	R4K-302	R4K-302	
*	Nameplate Screw (4)	R4K-302	C6H20A-301 R4K-302	C6H20A-301	
		N4N-302	K4N-3U2	R4K-302	

^{*} Not illustrated

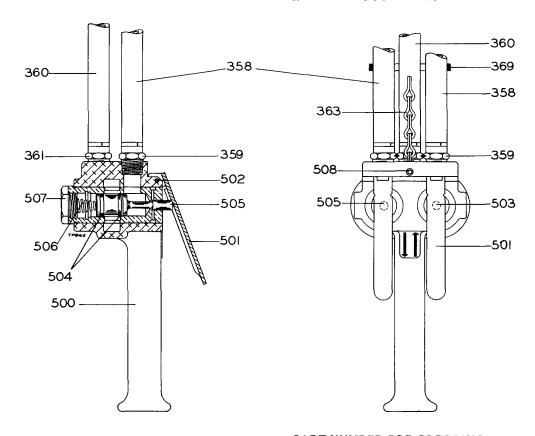
[•] To keep downtime to a minimum, it is desirable to have on hand certain repair parts. We recommend that you stock one (pair or set) of each part indicated by a bullet (•) for every four tools in service.



Valve Chest for Hoists Equipped with Pendent Throttle or Remote Control and Mechanical Brake Only



PENDENT THROTTLE HANDLE AND HOST PARTS



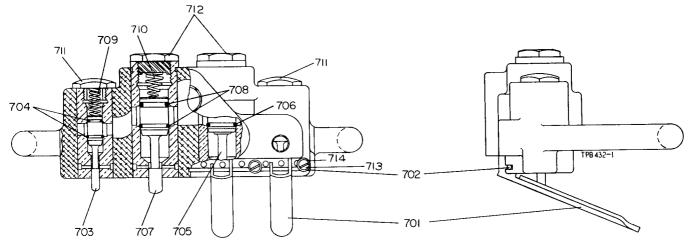
PART NUMBER FOR ORDERING ·

■ 358	Control Hose Assembly (2)	
	5 ft. length	C6H20A-A930
	Length as specified	C6H20A-AL930
359	Hose Nipple (2 for each Hose)	C6H20A-14
360	Live Air Hose Assembly	
	5 ft. length	C6H20A-A930
	Length as specified	C6H20A-AL930
361	Hose Nipple (2)	C6H20A-14
362	Hose Union (3)	AAM-282
363	Pendent Throttle Chain (length as specified) (order chain one inch shorter than Live Air	
	Hose)	D02-B413
364	S-Hook	D01-221
365	Pendent Throttle Chain Screw	D02-506
366	Chain Screw Lock Washer	D02-321
367	3/8" Plain Washer	D02-419
368	Pendent Throttle Inlet Nipple (3)	AAM-286
369	Hose Binder (3)	D10-927
*	Control Hose Exhaust Valve (2)	C6H20A-939
500	Pendent Throttle Handle Assembly	C6H20A-A169A
501	Pendent Throttle Lever (2)	C6H20A-273
502	Throttle Lever Pin	C6H20A-281
503	Pendent Throttle Raise Valve Assembly	C6H20A-A164A
504	Pendent Throttle Valve Seal Ring (2)	C620C-289
505	Pendent Throttle Lower Valve Assembly	C6H20A-A165A
504	Pendent Throttle Valve Seal Ring (2)	C620C-289
506	Pendent Throttle Valve Spring (2)	C6H20A-308
507	Pendent Throttle Valve Cap (2)	C6H20A-180
508	Chain Anchor Pin Lock Screw	H54U-561
*	Throttle Chain Anchor Pin	R4-15
	Land the second of the second	

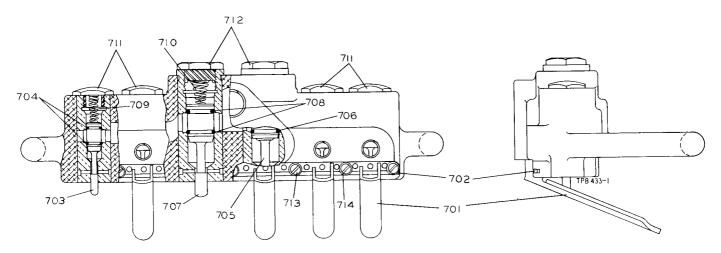
^{*} Not illustrated.

Required when control length exceeds 20 ft. Locate Valves 5 ft. from Handle as shown in illustration.

TWO AND THREE MOTOR PENDENT THROTTLE HANDLE ASSEMBLIES



Two Motor Pendent Throttle Handle No. C6H20A-A122A or C6H20A-AR122A

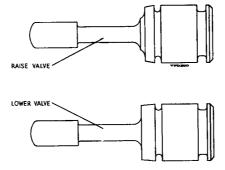


Three Motor Pendent Throttle Handle No. C6H20A-A132A or C6H20A-AR132A

CAUTION

When assembling a Pendent Throttle Handle, be sure to use a Raise Valve (705) and a Lower Valve (707), and to install each in its proper location, otherwise throttle graduation will be adversely affected.

The difference between the Valves is confined to the stem end of the pod as shown below. Although the difference is slight, it is sufficient for visible identification.



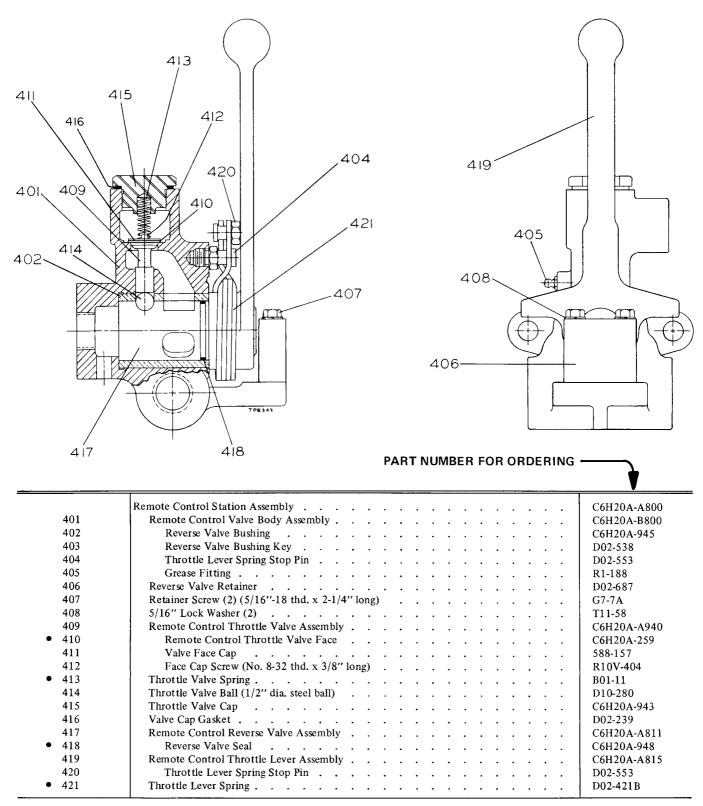
Raise and Lower Pendent Throttle Valves

PART NUMBER FOR ORDERING-

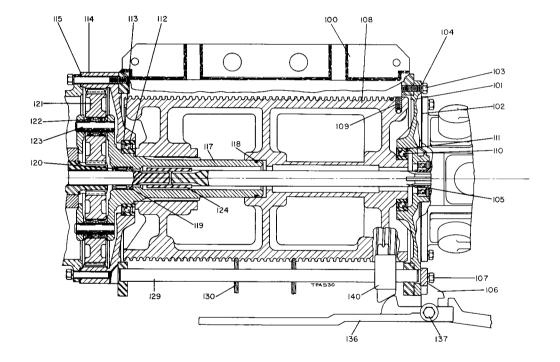
Spark Resistant Three Motor Handle Standard Spark Resistant 701 Pendent Throttle Lever (4 for Two Motor Handle; 6 for Three Motor Handle) Throttle Lever Pin Two Motor Handle Three Motor Handle Three Motor Handle Three Motor Handle Throttle Small Valve (2 for Two Motor Handle; 4 for Three Motor Handle).	CCH204 41224
Standard Spark Resistant Three Motor Handle Standard Spark Resistant Spark Resistant Pendent Throttle Lever (4 for Two Motor Handle; 6 for Three Motor Handle) Throttle Lever Pin Two Motor Handle Three Motor Handle Three Motor Handle Three Motor Handle Pendent Throttle Small Valve (2 for Two Motor Handle; 4 for Three Motor Handle).	CCH20+ +122+
Spark Resistant Three Motor Handle Standard Spark Resistant 701 Pendent Throttle Lever (4 for Two Motor Handle; 6 for Three Motor Handle) Throttle Lever Pin Two Motor Handle Three Motor Handle Three Motor Handle Three Motor Handle Throttle Small Valve (2 for Two Motor Handle; 4 for Three Motor Handle).	CCHOOL LIGHT
Three Motor Handle Standard Spark Resistant Pendent Throttle Lever (4 for Two Motor Handle; 6 for Three Motor Handle) Throttle Lever Pin Two Motor Handle Three Motor Handle Three Motor Handle Three Motor Handle Three Motor Handle Pendent Throttle Small Valve (2 for Two Motor Handle; 4 for Three Motor Handle)	C6H20A-A122A
Three Motor Handle Standard	C6H2OA-AR122A
Spark Resistant	
Pendent Throttle Lever (4 for Two Motor Handle; 6 for Three Motor Handle) Throttle Lever Pin Two Motor Handle Three Motor Handle Three Motor Handle Pendent Throttle Small Valve (2 for Two Motor Handle; 4 for Three Motor Handle).	C6H20A-A132A
Throttle Lever Pin Two Motor Handle Three Motor Handle Three Motor Handle Pendent Throttle Small Valve (2 for Two Motor Handle; 4 for Three Motor Handle).	C6H20A-AR132A
Two Motor Handle	C6H20A-273
Three Motor Handle	
Pendent Throttle Small Valve (2 for Two Motor Handle; 4 for Three Motor Handle)	C6H20A-125
	C6H20A-135
70.	D01-264
704 Small Valve Seal (2 for each Small Valve)	R000BR-210
‡ 705 Pendent Throttle Raise Valve Assembly	C6H20A-A164A
	C620C-289
‡ 707 Pendent Throttle Lower Valve Assembly	C6H20A-A165A
708 Valve Seal Ring (2)	C620C-289
709 Pendent Throttle Small Valve Spring (2 for Two Motor Handle; 4 for Three Motor	
Handle)	D01-51
710 Pendent Throttle Large Valve Spring (2)	C6H20A-308
711 Small Pendent Throttle Valve Cap (2 for Two Motor Handle; 4 for Three Motor	
Handle)	
Standard	D01-180
Spark Resistant	D01-1180
712 Large Pendent Throttle Valve Cap	
Standard	C6H20A-180
	C6H20A-R180
	MF-31
	D02-138
	R4-15
* Anchor Pin Lock Screw	H54U-561

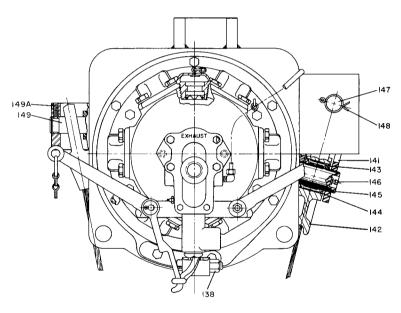
^{*} Not illustrated. ‡ Old style Valve Assemblies are no longer available. These new style Valve Assemblies are completely interchangeable with the old style.

REMOTE CONTROL PARTS



[•] To keep downtime to a minimum, it is desirable to have on hand certain repair parts. We recommend that you stock one (pair or set) of each part indicated by a bullet (●) for every four tools in service.





100	Hoist Housing	1	125	Rope Guide	
	for Size D6100A17 or D6100B15	D6100A17-300		for Size D6100B15 or 24	C640A17-R790
	for Size D6100A26	D6100A26-300			
	for Size D6100B24	D6100B24-300		Rope Guide Gear End	
101	Motor Case Cover	C6H40A-502		for Size D6100B15 or D6100B24	D6100B24-R78
• 102	Motor Case Cover Gasket	C6H20A-592	126	Rope Guide Roller	2010022(11/0
103	Motor Case Cover Screw (6) (1/2"-13 thd. x 1-1/4").	215-148		for Size D6100B15 or 24	C640A-792
104	1/2" Lock Washer (12)	D10-322	127	Guide Roller Pin	C640A-793
105	Motor Shaft		128	Roller Pin Retainer (2)	C640A-100
	Overall length	1	129	Guide Rod (2)	00.011.100
	18-7/8" (479 mm)	C6H40A22-316		21" (533 mm) long	C6H40A22-R79
	26-7/8" (683 mm)	C6H40A35-316		29" (737 mm) long	C6H40A35-R79
106	Stop Lever Bracket	C6H20A-905	130	Wire Rope	C011+0/133-1(1)
107	Stop Lever Bracket Screw (2) (3/8"-16			for Size D6100A17 or D6120A17	D6100A17-372
	thd. x 1-3/4")	D10-312		for Size D6100A26 or D6120A26	D6100A17-372
108	Rope Drum Assembly			for Size D6100B15	D6100B15-372
	for Size D6100A17	D6H60A35-A371		for Size D6100B24	D6100B15-372
	for Size D6100A26	D6H60A52-A371	132	Wedge Block Rope Anchor	C640A-374
	for Size D6100B15	D6100B15-A371	*	Brake Pipe Strap	C6H20A-727
	for Size D6100B24	D6100B24-A371	*	Strap Screw (3/8"-16 thd. x 1/2" lg. hex head)	DLC-752
109	Rope Set Screw 1/2"-13 thd, x 1"	2010022(113)1	134	Drum Guard	C6H40A100-29
	cone point (3)	HU-381	135	Drum Guard Screw (3) (3/8"-16 thd. x 7/8")	D02-506
*	Warning Label	WR-147	136	Stop Lever	D02-300
*	Warning Label Screw (2)	D02-302	130	for Size D6100B15	
• 110	Drum Bearing, Motor End (N. D. Z4993L14 or			with Pull Chain Throttle	C6H20A22-422
	equivalent)	C6H20A-466		with Pendent Throttle or Remote	C01120A22-422
• 111	Motor Case Cover Seal	C6H20A-103		Control	C6H20A22-222
• 112	Drum Bearing, Gear End (MRC 117KSZZG or			for Size D6100B24	CONZUAZZ-ZZZ
	equivalent)	C6H40A-466		with Pull Chain Throttle	C6H20A35-422
• 113	Ring Gear Seal	C6H40A-103		with Pendent Throttle or Remote	C01120A33-422
114	Secondary Ring Gear	C6H40A-781A		Control	C6H20A35-222
• 115	Ring Gear Gasket	C6H40A-931		for Size D6100A17 or D6120A17	C0H2UA33-222
*	Ring Gear Retaining Screw (2) (3/8"-16 thd. x	Conton 751		with Pull Chain Throttle	D6100A17-422
	2-1/2")	C6H40A-356		with Pendent Throttle or Remote	D6100A17-422
117	Secondary Gear Frame Assembly	C6H40A-A786		Control	DC100417 222
118	Gear Frame Seal Ring	R38-311		for Size D610026 or D6120A26	D6100A17-222
• 119	Pinion Inner Seal	C6H40A-872			D(100 + 26 + 422
120	Pinion Inner Bearing (Torrington HJ-162416 or	C01140A-072		with Pull Chain Throttle	D6100A26-422
120	equivalent)	CC11404 500		with Pendent Throttle or Remote	D 6400 + 0 6 000
121	Secondary Planet Gear Assembly (3)	C6H40A-589 D6100B-A779	127	Control	D6100A26-222
121	Gear Bearing (2 for each Gear) (Roller Bearing	D0100B-A//9	137	Stop Lever Bolt	D10-354A
122		5DM 24	138	Stop Lever Bolt Nut	D02-904
123	Co. of America No. SJ7153 or equivalent)	5BM-24	• 139	Friction Spring (1 for Pull Chain Throttle; 2 for	I
123	Secondary Planet Gear Shaft (3)	C6H40A-787		Pendent Throttle)	D01-268
124	Motor Shaft Coupling	2EH20A-314			

^{*} Not illustrated.

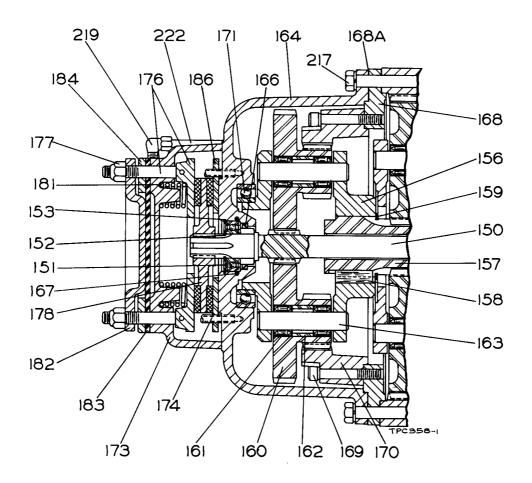
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MAIN HOIST PARTS (Continued)

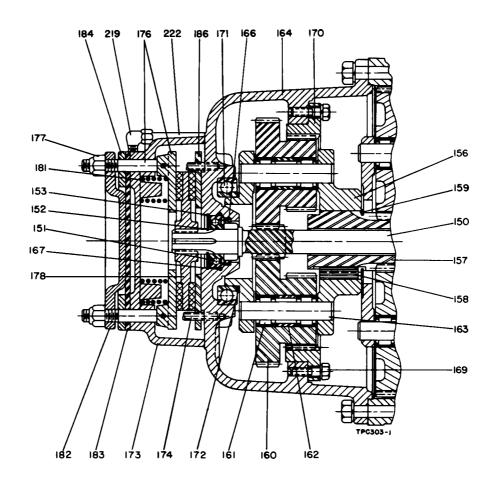
	PART NUMBER FOR ORDERING			PART NUMBER FOR ORDERING	—
140	Stop Cam		145	Idler Sheave Shaft	
	for Size D6100A17 or 26; Size			for D6100A17, D6100A26, D6120A17	
	D6120A17 or 26	D6H60A35-R771		for D6120A26	D6100A-638
141	Idler Sheave Yoke			for D6100B15 or D6100B24	D6100B24-638
	for D6100A17, D6100A26, D6120A17		146	Grease Fitting	R1-188
	or D6120A26	D6100A-639	*	Sheave Shaft Lock	MR20-383
	for D6100B15 or D6100B24	D6100B24-639	*	Lock Screw (2) (1/4"-20 thd, x 1/2")	JC3350-103
142	Idler Sheave Assembly or Auxiliary Sheave		*	1/4" Lock Washer (2)	L01-67
	for D6100A17, D6100A26, D6120A17		147	Idler Sheave Yoke Pin	D6100A-172
	or D6120A26	C6H40A28-A380	148	Yoke Pin Cotter (2)	D04-383
	for D6100B15 or D6100B24	D6100B24-349	149	Rope Anchor	
• 143	Idler Sheave Bearing (Torrington HJ-243320 or		1	for Size D6100A17 or 26; D6120A17	}
	equivalent)	C6H40A28-753		or 26	D6100A-641
144	Bearing Seal (2)	C6H40A28-754	149A	Anchor Screw (5/16-18 thd. x 3/4" socket head,	
				cup point)	C6H20A-643

^{*} Not illustrated.

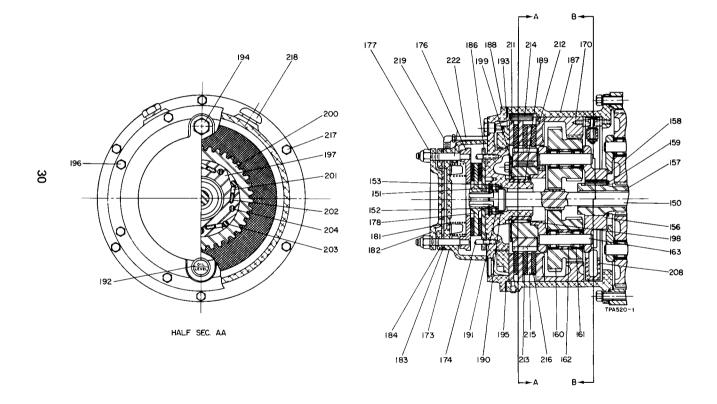
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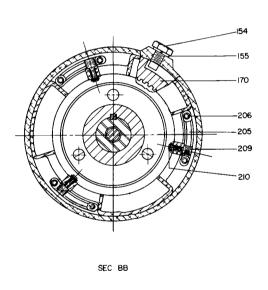


Gear Case for Series D6100B Hoists



Gear Case End of Series C640A or D660A Hoist Equipped with Diaphragm Brake





Gear Case End of Hoist Equipped with Dual Brakes

GEAR CASE AND BRAKE PARTS

PART NUMBER FOR ORDERING-

150	Motor Shaft Pinion	
	Overall Length	
	16" (406 mm)	C6H40A-319
	13-3/4" (349 mm)	C640A19-319
• 151	Pinion Outer Bearing	AM-318
152	Pinion Retainer	C6H20A-6
153	Pinion Outer Bearing Retainer	C6H20A-118
154	Ring Gear Stop	C6H40A-798
155	3/4" Lock Washer	D01-692
156	Primary Gear Frame Assembly	2010/2
	for all except Sizes D6100B15 or D6100B24	C6H40A-A367A
	for Size D6100B15 or D6100B24	D6100B-A367
157	Gear Frame Pinion	C6H40A-734
158	Gear Frame Pinion Key	C6H40A-735
159	Pinion Retainer	C6H40A-736
160	Primary Planet Gear Assembly	CONTOA-130
100	for all except Sizes D6100B15 and D6100B24 (2)	C6H40A-A364
	for Size D6100B15 or D6100B24 (3)	D6100B24-A364
• 161	Gear Bearing (2 for each Gear) (Roller Bearing Co. of America No. SJ7153 or	D0100B24-A304
101	equivalent)	5BM-24
162	Bearing Spacer (1 for each Gear)	C6H40A-363
163	Primary Planet Gear Shaft (1 for each Gear)	C6H40A-365
164	Gear Case Assembly	C01140A-303
201	for Size D6100A17, D6100A26, D6120A17 or D6120A26 with	
	Diaphragm Brake only	C640A19-A353
	for Size D6100B15 or D6100B24 with Diaphragm Brake only	D6100B24-A353
*	Oil Level Gauge	C6H20A-16
• 166	Pinion Outer Seal	C6H20A-10 C6H20A-271
• 167	Pinion Outer Bearing Seal	R18-311
*	1/4" Pipe Plug	R0H-377
168	Ring Gear Plate (for Size D6100B15 or D6100B24)	D6100B-352
168A	Ring Gear Plate Gasket (for Size D6100B15 or D6100B24)	D6100B-352 D6100B-351
169	Ring Gear Screw (6)	D0100D-331
107	3/8"-16 thd. x 1-1/4" hex head	PDA312-28
170	Primary Ring Gear	FDA 512-20
170	for Hoist with Diaphragm Brake only	
	Size D6100A17, D6100A26, D6120A17 or D6120A26	C640A19-897
	Size D6100B15 or D6100B24	D6100B24-897
	for Hoist with Mechanical Load Brake or Dual Brakes	D0100D24-09/
	for all except Sizes D6100B15 and D6100B24	C6H40A-797
• 171	Primary Gear Frame Bearing	C640A19-33
172	Gear Frame Bearing Spacer (D6100A or D6120A)	C640A19-899
173	Brake Housing	C640A19-899 C6H20A-346
174	Brake Housing Cap Screw (4) (5/16"-18 thd. x 3-3/4")	
*	5/16" Lock Washer (4)	C6H20A-344
176	Brake Plate	T11-58
177	Brake Adjusting Nut (2) (1/2"-20 thd. ESNA)	C6H20A-389
• 178	Brake Disc Assembly (includes two Facings bonded to Disc)	FM-544
• 181	Brake Spring (4)	C6H20A-A388
- 101	for Hoist with Diaphragm Brake only	CCHOO A 202
	for Hoist with Dual Brake Only	C6H20A-393
182	for Hoist with Dual Brake	5H0-37
• 183	Brake Plunger	C6H20A-391
184	Brake Diaphragm	C6H20A-390
104	Diaphragm Ring	C6H20A-395

^{*} Not illustrated.

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GEAR CASE AND BRAKE PARTS (Continued)

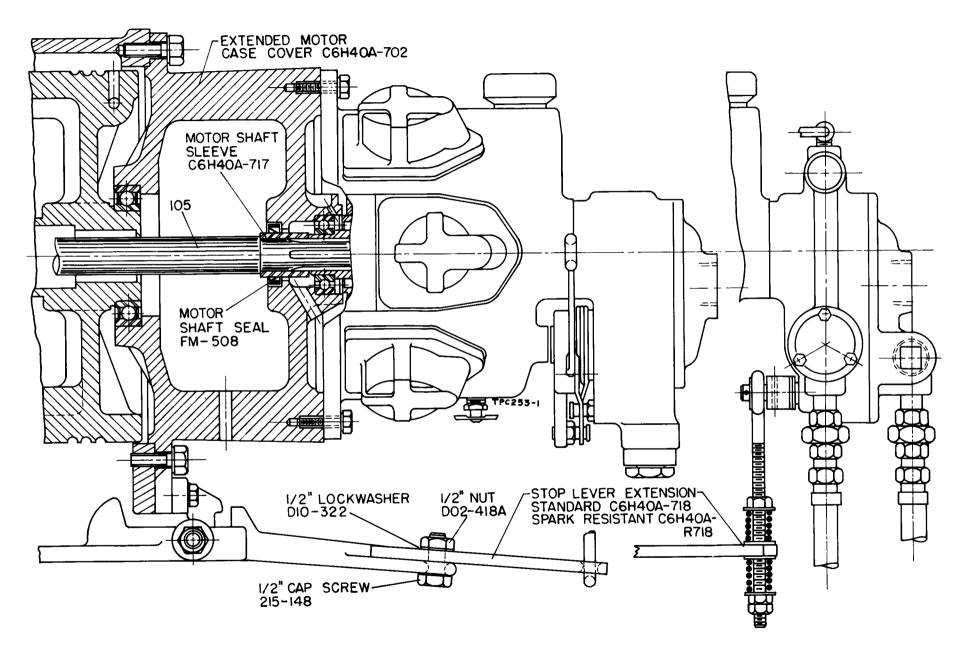
PART NUMBER FOR ORDERING -

*	Diaphragm Screw (4) (5/16"-18 thd. x 1")	B8-240
186	Brake Thrust Ring	C6H20A-397
	Gear Case (Series D6100A or D6120A with Dual Brakes)	C6H40A-353
188	Gear Case Cover Assembly (Series D6100A or D6120A with Dual Brakes)	C6H40A-A352
189		C6H40A-154
	Ratchet Bearing Sleeve	C6H2OA-271
	Pinion Outer Seal	·
• 191	Pinion Outer Bearing Seal	R18-311
192	Oil Level Gauge	C6H2OA-16
	Brake Adjusting Nut	C6H40A-153
194	Adjusting Nut Lock	C6H40A-148
• 195	Gear Case Cover Gasket	C6H40A-351
196	Gear Case Cover Screw (8) (3/8"-16 thd. x 1")	D02-354
• 197	Brake Ratchet Assembly	C6H40A-A156
198	Ratchet Bearing	K6U-466
199	Ratchet Side Plate	C6H40A-158
200	Ratchet Race	C6H40A-157A
201	Ratchet Plunger (5)	C6H40A-160
202	Plunger Spring (5)	C6H40A-159
203	Ratchet Roller (5)	C6H40A-161
204	Ratchet Retaining Screw (5) (3/8"-16 thd. x 2-1/2")	HU-865
205	Load Brake Cam (6)	C6H40A-88
206	Cam Retaining Screw (12) (1/4"-20 thd. x 5/8" socket head)	G57T-634
*	Retaining Screw Lock Washer (12)	8U-58
		C6H40A-85
208	Roller Carrier	C6H4UA-63
• 209	Cam Follower	G(II40 + 0)
	Round (2)	C6H40A-86
	Square	C6H40A-286
210	Cam Follower Retainer (3)	4E-6
• 211	Brake Plate (2)	C6H40A-150
• 212	Brake Thrust Plate	C6H40A-151
• 213	Friction Disc (2)	C6H40A-152
214	Brake Plate Key	C6H40A-149
• 215	Slip Plate	C6H40A-163
• 216	Slip Disc	C6H40A-164
217	Gear Case Screw (6)	
	1/2"-13 thd. x 4"	207-W37
	1/2"-13 thd. x 4-1/2"	D6100B24-37
218	Gear Case Vent Cap	C6H2OA-19
219	Brake Pipe Elbow (2)	D02-400
*	Brake Pipe Strap (2)	C6H20A-727
*	Brake Pipe Strap Screw (2) (3/8"-16 thd. x 1/2")	DLC-752
222	Brake Pipe	DEC-132
222	Length	
		CCH40422 201
	56" (1422 mm)	C6H40A22-201
	59" (1498 mm)	C6H40A22-401
	64" (1625 mm)	C6H40A35-201
	67" (1701 mm)	C6H40A35-401
224	Primary Gear Frame Spacer Assembly	C6H40A-A899
225	Spacer Bearing (Torrington No. B4420 or equivalent)	K6U-466
226	Ring Gear Cap Screw (8) (3/8"-16 thd. x 2-1/2" socket head)	C6H40A-356
227	3/8" Lock Washer (8)	D02-321
o *	Pinion Cap	C6H20A-25
o *	Pinion Cap Gasket	C6H20A-27
□ *	Pinion Cap Retaining Screw (3) (1/4"-20 thd. x 3/8")	RV1-376
□ *	Retaining Screw Lock Washer (3)	L01-67
		_01 0.

^{*} Not illustrated.

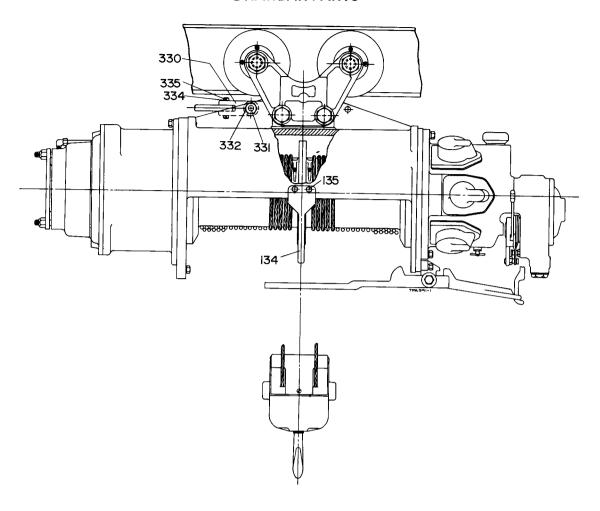
 $[\]hfill\Box$ Used on Hoist with Mechanical Load Brake.

[•] To keep downtime to a minimum, it is desirable to have on hand certain repair parts. We recommend that you stock one (pair or set) of each part indicated by a bullet (●) for every four tools in service.



Counterweight Arrangement for 5-Ton or 6-Ton Hoist

DRAWBAR PARTS

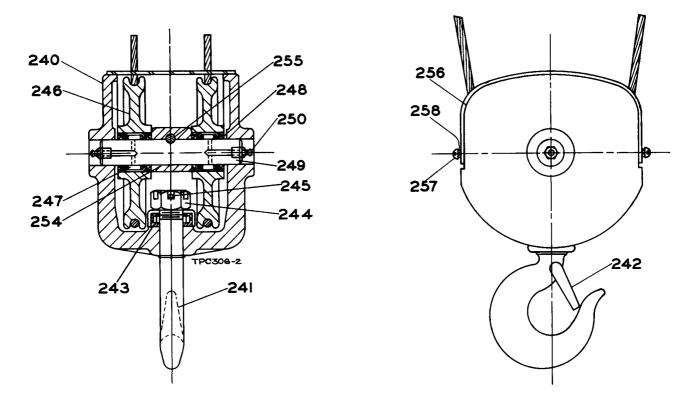


Drawbar Parts for connecting Hoist to Tractor

PART NUMBER FOR ORDERING -

330	Drawbar Yoke	C6H20A-607
331	Yoke Hinge Bolt or Pin	
	5/8"-11 thd, x 4-3/4" hex head	B8-269
	5/8'' dia, x $3-9/16''$ long with $9/64''$ crosshole near each end	C6H20A-608
332	Hinge Bolt Nut (ESNA 5/8"-11 thd.)	D01-341A
333	Hinge Pin Cotter (2) (1/8" x 1-1/4")	D02-330
334	Drawbar Pin	C6H20A-793
335	Drawbar Pin Cotter (2) (3/32" x 3/4")	D02-524
*	Drawbar Pin Cotter (2) (3/32" x 3/4")	C6H40A-711

^{*} Not illustrated.



Double-Sheave Type

LOAD BLOCK ASSEMBLY PARTS

PART NUMBER FOR ORDERING

		V V	
		5-Ton	6-Ton
	Load Block Assembly		
	Standard	D6100A-BS378	D6120A-BS378
	Spark-resistant	D6100A-BSR-378	
	Bullard-Burnham Hook	D6100A-BBB378	D6120A-BBB37
	Sheave Block and Hook Assembly		
	Standard	D6100A-AS378	D6120A-AS378
	Spark-resistant	D6100A-ASR378	
	Bullard-Burnham Hook	D6100A-ABB378	D6120A-ABB37
240	Sheave Block		
	Standard and Bullard-Burnham	D6100A-378	D6120A-378
	Spark-resistant	D6100A-R378	
241	Hook Assembly	2010011 KB/0	
27.12	Standard	D10-AS377	D10-AS377
	Spark-resistant	D10-AS1377	
	Bullard-Burnham	D6100B-ABB377	D6100B-ABB37
242	Latch Kit	DOTOOD-ADD377	DOTOOD ADDS
212	For Standard Hook	D10-S123	D10-S123
	For Spark-resistant Hook	D10-S125	510-5125
243	Hook Bearing	D10-54055	
273	For Standard Hook	D10-379A	D10-379A
	For Spark-resistant Hook	D10-377A D10-1379	D10-3/7A
244	Hook Nut	D10-1379	•
277		D10-305B	D10-305B
	Standard	D10-303B D10-1305	D10-303B
245	Lock Pin	D10-1303	
273	Standard	D6100A-376	D6100A-376
	Spark-resistant	D0100A-376	D0100A-370
246	Sheave Assembly	D04-1370	
240	For Double-sheave Block		
		C6H40A28-A380	C6H40A28-A38
	Standard	C6H40A28-AR380	C0H4UA26-A36
247	Sheave Bearing (Torrington No. HJ-243320 or equivalent)	C6H40A28-753	
248	Sheave Bearing Seal (2 for each Sheave)	C6H40A28-754	
249	Sheave Shaft	D6100A-382	D6100A-382
250	Grease Fitting (1 for each Sheave)	23-188	23-188
254	Sheave Shaft Anchor	D6100A-448	D6100A-448
255	Sheave Shaft Anchor Cotter	215-120	215-120
256	Sheave Block Cover	213-120	213-120
230	Standard	D6100A-441	D6100A-441
		D6100A-441 D6100A-R441	D0100A-441
257	Spark-resistant	D0100A-R441	
231	` '		
	Standard (1/4"-20 thd, x 1/2" long round head,	1 276	1 226
	steel)	J-376	J-376
	Spark-resistant (1/4"-20 thd. x 1/2" long	CCHOO A DOGG	
250	round head, brass)	C6H20A-R937	
258	Cover Screw Lock Washer	T 0.1 67	101.65
	Standard	L01-67	L01-67
	Spark-resistant	P225-67	

[•] To keep downtime to a minimum, it is desirable to have on hand certain repair parts. We recommend that you stock one (pair or set) of each part indicated by a bullet (•) for every four tools in service.

TROLLEY INFORMATION

Plain Trolleys, Hand Chain Driven Trolleys and Motor Driven Trolleys are available for mounting Standard Headroom Hoists on either Flat-Tread Monorails or I-Beams.

The tread on the Wheel of a Trolley for operation on an I-Beam is spherical, while the Wheel of a Trolley for operation on a Monorail has a flat tread.

The primary difference between standard and spark-resistant Trolleys is in the materials from which the Wheels are machined.

Trolleys for Hoists with Double Mounting Bosses are arranged as follows:

A 5-Ton or 6-Ton Hoist uses a regular four-wheel Plain Trolley at one boss and a two-wheel Auxiliary Trolley at the other. We recommend that the Auxiliary Trolley be installed on the Motor end of the Hoist. A Hand Chain Driven Trolley or a Motor Driven Trolley can be installed in place of the Plain Trolley. For straight track operation, the Trolleys may be bolted directly to the housing bosses, but swivel mounting is required if curves must be negotiated.

All Trolleys are furnished with Trolley Bracket Bolts long enough to accommodate the maximum flange width of the I-Beam or Monorail for which the Trolley is recommended, and with sufficient spacers for properly spacing the Trolley brackets for any I-Beam or Monorail within the specified range of the Trolley. Spacers are 1/6", 1/4", 3/8", 1/2" and 1" thick. The size and flange width of the I-Beam or Monorail determines the quantity and thickness of the Spacers required between the Trolley Bracket and mounting boss on the Hoist. An equal number must be used on each side. For example, the No. C640A-A430-6 Trolley fits a standard 6" (3.33" flange width) I-Beam when the Brackets contact the mounting boss. Therefore the four 1/6" spacers would be located outside the Bracket—one under the head of each Bolt and one under each Nut. However, if the Trolley is mounted on a standard 7" (3.66" flange width) I-Beam, the spacers would be located between the Brackets and boss. This would space each Bracket 1/6" from the boss, increasing the space between the Brackets 1/3" which is the flange width difference between standard 6" and 7" I-Beams.

When a Trolley for operation on 8" to 24" I-Beam is mounted on a standard 8" (4.00" flange width) I-Beam, or when a Trolley for operation on a Flat-Tread Monorail is mounted on a track with 3.25" or 3.33" wide flange, no Spacers are required between the Brackets and mounting boss.

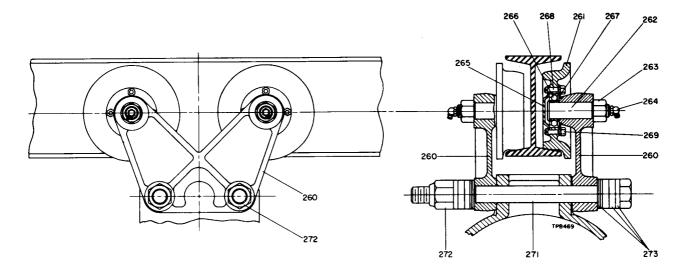
For an I-Beam with a flange width greater than 4.00", or for a Monorail with a flange width greater than 3.33", spacers must be used to obtain the proper wheel location. As stated in the Installation Section the distance between the wheel flanges should be a maximum of 1/4" (6 mm) greater than the flange width of the track. Keep in mind that an equal quantity of Spacers of the same size must be used on each side of the boss and on each Bolt.

For Example: To install this Trolley on an I-Beam with 6.25" flange width would require each Trolley Bracket to be spaced 1-1/2" from the mounting boss to compensate for the 2.25" increase in beam flange width. This spacing can be obtained by using four sets of the following Spacer combinations of one 1/4", one 3/8" and either three 1/6" or one 1/2" on each Bolt side of the boss.

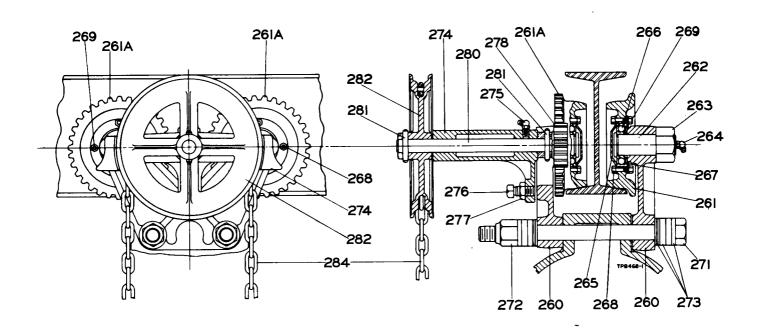
I-Beam dimensions vary with different class beams. The flange width in relation to I-Beam size of the most widely used class is shown in the following table.

Beam Size				Bear	n Size	Flange Width		
in.	mm	in.	mm in. mm		in. mm		mm	
6	152	3.33	85	12	305	5.00	127	
7	178	3.66	93	15	381	5.50	140	
8	203	4.00	102	18	457	6.00	152	
9	229	4.33	110	20	508	6.25	159	
10	254	4.66	118	24	610	7.00	178	

Swivel Trolleys are spaced in the same manner as the Rigid Trolleys except that the Spacers are located between the Brackets and the Mounting Block.



Plain Trolley



Hand Chain Driven Trolley

TROLLEY ASSEMBLIES

Order a complete Trolley Assembly by one of the following part numbers:

For Standard Headroom Hoists

For 5-Ton or 6-Ton Hoist

Four-Wheel, Plain

Four-Wheel, Hand Chain Driven

To operate on 12" (5.00" - 127 mm flange width) to 24" (7.00" - 178 mm flange width) I-Beam				D6100A-A471
To operate on Flat-Tread Monorail (3.25" - 83 mm to 4.50" - 114 mm flange width)				D6100A-AT471

PARTS FOR FOUR-WHEEL PLAIN AND HAND CHAIN DRIVEN TROLLEYS

PART NUMBER FOR ORDERING ----

D02-475

D02-520

D02-470

D02-B476 D02-B1476

D10-T475

		5-Ton o 6-Ton
	Assembled Trolley Bracket	
	with Plain Wheels (2 for Plain Trolley; 1 for Hand Chain Driven Trolley)	
	to operate on 12" or larger I-Beam	D10-B430B
	to operate on Flat-Tread Monorail	D10-BT430B
	with Geared Wheels (for Hand Chain Driven Trolley)	
	to operate on 12" or larger I-Beam	D10-G430B
	to operate on Flat-Tread Monorail	D10-GT430E
260	Trolley Bracket (1 for each Assembled Bracket)	D10-430B
261	Trolley Wheel (2 for each Assembled Bracket) Plain	
	to operate on 12" or larger I-Beam	D10-431A
	to operate on Flat-Tread Monorail	D10-T431
261A	Geared	
	to operate on 12" or larger I-Beam	D10-472A
	to operate on Flat-Tread Monorail	D10-T472
262	Trolley Wheel Shaft (1 for each Wheel)	
	for Plain Wheel	D10-435A
	for Geared Wheel	D10-474A
263	Shaft Nut (1 for each Shaft)	
	for Plain Wheel Shaft	D10-305A
	for Geared Wheel Shaft	DU-562
*	3/4" Lock Washer (1 for each Geared Wheel Shaft)	D01-692
264	Angle Grease Fitting (1 for each Shaft)	23-189
265	Bearing Cap (1 for each Wheel)	D10-954
266	Trolley Wheel Bearing (1 for each Wheel)	D10-956
267	Bearing Plate (1 for each Wheel)	D10-955
268	Wheel Bolt (4 for each Wheel)	D10-957A
269	Elastic Stop Nut (1 for each Wheel Bolt)	503-639
271	Trolley Bracket Bolt (2)	
	13" (330 mm) long	D10-439A-13
	14" (356 mm) long	D10-439A-14
272	Trolley Bracket Bolt Nut (2)	D10-440B
273	Trolley Bracket Spacer	
	Thickness	
	1/4" (6.35 mm)	D10-442A-1/
	3/8" (9.53 mm)	D10-442A-3/
	1/2" (12.70 mm)	D10-442A-1/
	5/8" (15.86 mm)	D10-442A-5/
27.4	1'' (25.40 mm)	D10-442A-1
274	Sprocket Bracket Assembly	D04-471
275	Angle Grease Fitting	23-189
276	Bracket Set Screw	D02-480A
277	Set Screw Nut	G7-18
278	Drive Pinion	
	for Trolley to operate on 8" or larger I-Beam	D02-473
	for Trolley to operate on Flat-Tread Monorail	D02-T473
*	Distance Conserved	
*	Pinion Spacer	
*	Pinion Spacer for Trolley to operate on I-Beam for Trolley to operate on Flat-Tread Monorail	D02-442A-1/ D02-442A-1 (

280

281

282

284

Chain Sprocket Shaft

Hand Chain (length as specified)

for Trolley to operate on I-Beam

for Trolley to operate on Flat-Tread Monorail

^{*} Not illustrated.

PARTS FOR AUXILIARY TROLLEY

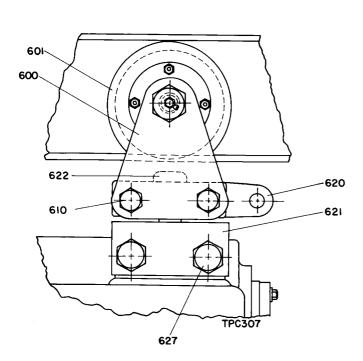
For Size D6100A26 or D6120A26 Hoist

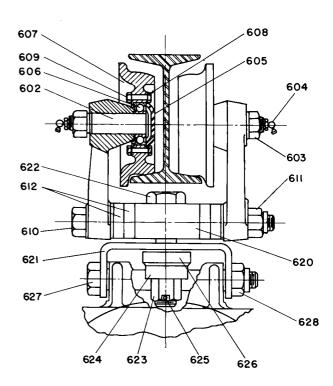
PART NUMBER FOR ORDERING -

	<u> </u>
	Assembled Trolley Bracket (2)
	For use with Plain or Hand Chain Driven Trolley
	Operating on 12" or 24" I-Beam
	Operating on Flat-Tread Monorail
	For use with Motor Driven Trolley
	Operating on 12" to 24" I-Beam
	Operating on Flat-Tread Monorail
600	Trolley Bracket (1 for each Assembled Bracket)
	For Trolley to operate on 12" to 24" I-Beam
	For Trolley to operate on Flat-Tread Monorail D6100A-600
601	Trolley Wheel (1 for each Assembled Bracket)
	For Trolley to operate on 12" to 24" I-Beam D10-431A
	For Trolley to operate on Flat-Tread Monorail D10-T431
602	Trolley Wheel Shaft (1 for each Wheel) D10-435A
603	Shaft Nut (1 for each Shaft)
604	Angle Grease Fitting (1 for each Shaft)
605	Bearing Cap (1 for each Wheel)
606	Trolley Wheel Bearing (AFBMA No. 40BC03JP) (1 for each Wheel) D10-956
607	Bearing Plate (1 for each Wheel)
608	Wheel Bolt (5/16"-24 thd. x 1-1/2") (4 for each Wheel) D10-957A
609	Elastic Stop Nut (5/16"-24 thd.) (1 for each Wheel Bolt)
610	Trolley Bracket Bolt (2)
	13" (330 mm) long
	14" (356 mm) long
611	Trolley Bracket Bolt Nut (1-1/8"-7 thd.) (2)
612	Trolley Bracket Spacer
	Thickness
	1/4" (4.23 mm) D10-442A-1/4
	3/8" (6.35 mm) D10-442A-3/8
	1/2" (12.70 mm) D10-442A-1/2
	5/8" (15.86 mm)
	1" (25.40 mm) D10-442A-1

SWIVEL TROLLEY PARTS

For Standard Headroom Hoist with Two Mounting Bosses





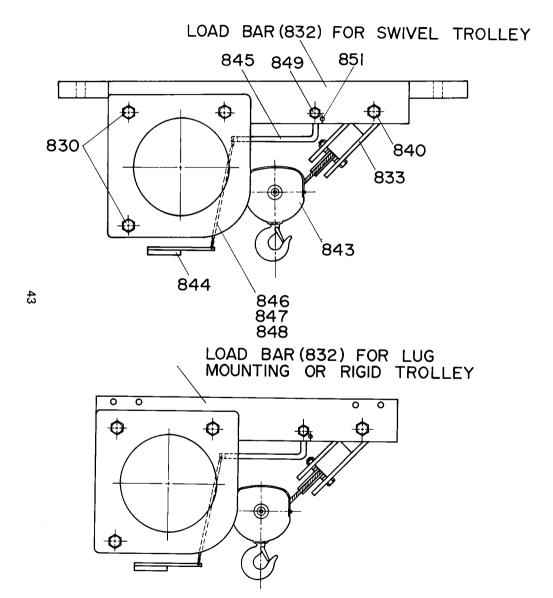
Auxiliary Trolley with Swivel Mounting Used on Size D6100A26 or D6120A26

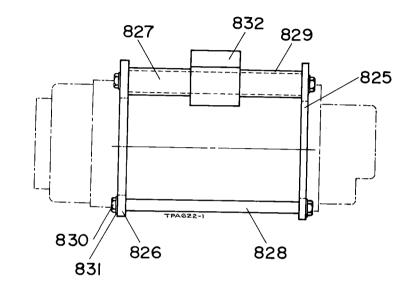
PART NUMBER FOR ORDERING -

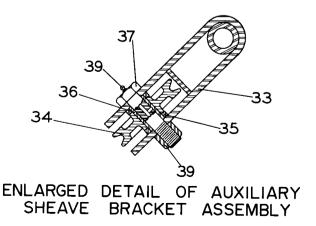


		5-Ton or 6-Ton
Δ	Swivel Trolley Kit	 D6100A26-K425
620	Mounting Block (2)	 D6100A26-425
621	Yoke (2)	 D10-590AX
622	Swivel Block Bolt (2)	 D6100A-823
623	Swivel Block Bolt Nut (2)	 D6100A-824
624	Swivel Bolt Spacer (2)	 D6100A-825
625	Roll Pin (2)	 DU-368
626	Thrust Bearing (2)	 D10-379A
627	Yoke Bolt (4)	D10-339
628	Yoke Bolt Nut (4)	

 $[\]triangle$ The Swivel Trolley Kit contains the correct quantity of parts for swivel mounting two Trolley Assemblies.







Parts for 5-Ton Low Headroom Hoist with Fabricated Housing

PARTS USED ONLY ON 5-TON LOW HEADROOM HOISTS

The majority of parts for a Low Headroom Hoist are the same as and interchangeable with corresponding parts for a Standard Headroom Hoist. Parts that are peculiar to Low Headroom Hoists are listed below.

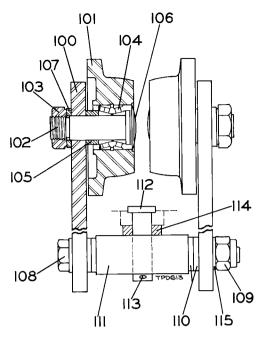
PART NUMBER FOR ORDERING



		5-Ton
,	Hoist Housing Assembly	
	for Size D6100B15LH	
	for use with Swivel Trolley	D6100B15LH-A3008
	for use with Rigid Trolley	D6100B15LH-A300
	for Size D6100B24LH	DOTOODISENASOO
	for use with Swivel Trolley	D6100B24LH-A3003
	for use with Rigid Trolley	D6100B24LH-A300
825	Motor End Bracket	C640A-761
826	Gear End Bracket	C640A-762
827		C040A-702
021	Support Bar (2)	C640A22-763
•	20-5/8" (524 mm) long	C640A35-763
020	28-5/8" (727 mm) long	C040A33-703
828	Stabilizer Bar	GC404 22 7C4
	20-5/8" (524 mm) long	C640A22-764
000	28-5/8" (727 mm) long	C640A35-764
829	Bracket Spacer (4)	
	6-19/32" (167 mm) long	C640A22-765
	10-19/32" (267 mm) long	C640A35-765
830	Bolt (6) (7/8"-9 thd. x 2")	CE110-823
831	Lock Washer (6) (7/8")	D02-441A
	Load Bar	
	for use with Swivel Trolley	D6100B-767
	for use with Rigid Trolley	D6100B-766
	Equalizer Sheave Bracket Assembly	D6100ALH-A639
833	Equalizer Sheave Bracket	C640A-639
834	Equalizer Sheave	D6100A-380
835	Sheave Spacer (2)	C640A-768
836	Sheave Race	C640A-769
837	Sheave Shaft	C640A-770
838	Grease Fitting	C6H20A-327
839	Shaft Nut	D02-440B
840	Bolt (1-1/8"-7 thd. x 8")	C640A-112-8
*	Nut (1-1/8"-7 thd.)	D10-440B
843	Sheave Block	D6100B-L378
844	Lower Stop Lever	
	Pull Chain Throttle	
	for Size D6100B15LH	C640A22LH-422
	for Size D6100B24LH	C640A35LH-422
	Pendent Throttle	
	for Size D6100B15LH	C640A22LH-222
	for Size D6100B24LH	C640A35LH-222
845	Upper Stop Lever	
	for Size D6100B15LH or D6100B24LH	C640A22LH-622
846	Stop Lever Chain	
	Standard	C640A-L773
	Spark-resistant	C640A-L773R
847	Chain Anchor Screw (2)	R2H-312
848	Lock Washer (2)	R2-230
849	Stop Lever Bolt (5/8"-11 thd. x 7")	D01-694-7
*	Stop Lever Bolt Nut (ESNA 5/8"-11 thd.)	D01-341A
851	Lever Stop Bolt (3/8"-16 thd. x 6-1/2")	107-25
*	Stop Bolt (3/8"-16 thd.)	WF171-13
*	Stop Cam	C6H40A38-R771
	100000000000000000000000000000000000000	JOIL TOLLDO ICT / I

^{*} Not illustrated.

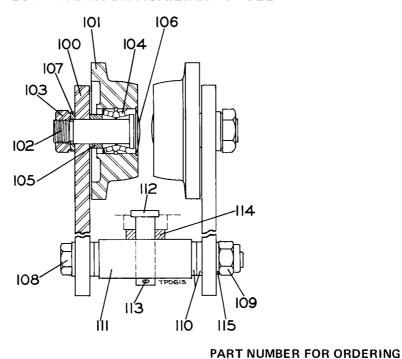
5-TON LOW HEADROOM PLAIN TROLLEY





		For 12" to 24" I-Beam 5" to 7" Flange Width	For Flat Tread Monorail 3.25" to 4.50" Flange Width
	Plain Swivel Trolley Assembly	TLP4060TG	TLP4060FG
	Assembled Trolley Bracket (2)	TLP-A430-5	TLP-AF430-5
100	Trolley Bracket (1 for each assembled		
	Bracket)	TLP-430-5	TLP-430-5
101	Trolley Wheel (2 for each assembled		
	Bracket)	TP-431-60	TP-F431-60
102	Trolley Wheel Pin (1 for each Wheel)	TP-435-5	TLP-F435-5
103	Pin Nut (1 for each Pin)	TP-305	TP-305
104	Wheel Bearing (1 for each Wheel)	TP-956	TP-956
105	Wheel Spacer (1 for each Wheel)	TP-432	TLP-F432
106	Wheel Cap (1 for each Wheel)	TP-826	TP-826
107	Wheel Lockwasher (1 for each Wheel)	DU-598	DU-598
108	Trolley Bracket Bolt (2)	D10-439A-13	D10-439A-13
109	Trolley Bracket Bolt Nut (2)	D10-440B	D10-440B
110	Trolley Bracket Spacer (16)	D10-442A-1/4	
110	Trolley Bracket Spacer (8)		D10-442A-1/4
110	Trolley Bracket Spacer (8)		D10-442A-1/6
111	Swivel Block	D6100A-L425	D6100A-L425
112	Swivel Block Pin	C6H40A-L823	C6H40A-L823
113	Pin Cotter	215-124	215-124
114	Swivel Block Pin Bearing	D10-379A	D10-379A
115	Trolley Bracket Spacer (4)	D10-442A-1/6	

5-TON LOW HEADROOM AUXILIARY TROLLEY



For Flat Tread For 12" to 24" 1-Beam Monorail 5" to 7" 3.25" to 4.50" Flange Width Flange Width Plain Swivel Trolley Assembly . TLP2060TG TLP2060FG Assembled Trolley Bracket (2) TLP-A600-5 TLP-AF600-5 100 Trolley Bracket (1 for each assembled Bracket) TLP-600-5 TLP-600-5 101 Trolley Wheel (2 for each assembled Bracket) TP-431-60 TP-F431-60 102 Trolley Wheel Pin (1 for each Wheel) TP-435-5 TLP-F435-5 Pin Nut (1 for each Pin) 103 TP-305 TP-305 104 Wheel Bearing (1 for each Wheel) . TP-956 TP-956 105 Wheel Spacer (1 for each Wheel) . TP-432 TLP-F432 Wheel Cap (1 for each Wheel) . . 106 TP-826 TP-826 107 Wheel Lockwasher (1 for each Wheel) . DU-598 DU-598 Trolley Bracket Bolt (2) 108 D10-439A-13 D10-439A-13 109 Trolley Bracket Bolt Nut (2) D10-440B D10-440B Trolley Bracket Spacer (16) . . . 110 D10-442A-1/4 110 Trolley Bracket Spacer (8) . . D10-442A-1/4 Trolley Bracket Spacer (8) 110 D10-442A-1/6 Swivel Block 111 D6100A-L425 D6100A-L425 Swivel Block Pin . . . 112 C6H40A-L823 C6H40A-L823 113 Pin Cotter 215-124 215-124 Swivel Block Pin Bearing . . . 114 D10-379A D10-379A 115 Trolley Bracket Spacer (4) D10-442A-1/6 _ _ _ _ _

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