

# MODEL UW50A30 UTILITY<sup>®</sup> WINCH

Form P6242  
Edition 5  
September, 1982

## WARNING

***This Winch is not to be used  
for lifting or lowering people***

**Always operate and maintain this Winch in accordance with American National Standards Institute Safety Code (ANSI B30.7) and any other applicable safety codes and regulations.**

**FOR TOP PERFORMANCE AND MAXIMUM DURABILITY OF PARTS, OPERATE THIS WINCH AT 90 psig (6.2 bar/620 kPa) AIR PRESSURE WITH 1-1/4" (32 mm) DIAMETER HOSE.**

### OPERATING PRACTICES

The two most important aspects of Winch operation are: (1) Allow only qualified people to operate a Winch and (2) Subject each Winch 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 Winch operator must be carefully instructed in his duties and must understand the operation of the Winch, 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 Winches 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: See lubrication instructions on pages 2 and 3.
- b. BRAKES: Visually check for proper adjustment. 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. Follow cable manufacturer's recommended practice for proper use and inspection of wire rope.  
Hooks should be checked for wear, increase in throat opening, and bending.
- d. CONTROLS: See that controls function properly and return to neutral when released.
- e. GENERAL: Check to see that mounting fastenings are secure, unworn and undamaged. Be alert for unusual visual or audible signs which could indicate a defect. Do not operate the Winch until the defect has been determined and corrected.

Periodically, depending on the severity of the service:

- a. Inspect Brake components for wear or damage.
- b. Check all bolts or fasteners.
- c. Inspect the Winch structure for damage.

*(Continued on Page 2.)*

**Notice:** The use of other than genuine Ingersoll-Rand replacement parts may result in decreased Winch 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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**INGERSOLL-RAND<sup>®</sup>**  
**AIR WINCHES**

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## OPERATING INSTRUCTIONS

1. Read the manufacturer's instructions before operating the Winch.
2. Never lift a load greater than the rated capacity of the Winch.
3. Never use the Winch rope as a sling.
4. Always stand clear of the load.
5. Never use the Winch for lifting or lowering people, and never stand on a suspended load.
6. Never carry loads over people.
7. Before each shift, check the Winch for wear or damage. Check brakes, controls, etc.
8. Periodically inspect the Winch thoroughly and replace worn or damaged parts.
9. Follow the lubrication instructions.
10. Do not disengage clutch with a load on the Winch. Be sure clutch is fully engaged before operating Winch.
11. Do not "side pull" or "yard".
12. Always rig the Winch properly and carefully.
13. Never operate a Winch with twisted, kinked or damaged wire rope.
14. Be sure cable winds properly on drum.
15. Ease the slack out of the wire rope and sling when starting a lift. Do not jerk the load.
16. Be certain there are no objects in the way of a load or hook when operating the Winch.
17. Be certain the air supply is shut off before performing maintenance work on the Winch.
18. Shut off air supply while Winch is unattended.
19. Properly secure the Winch before leaving it unattended.
20. Be certain the load is properly seated in the saddle of the hook. Do not tiplload the hook as this leads to spreading and eventual failure of the hook.
21. Do not allow unqualified personnel to operate a Winch.
22. Do not swing a suspended load.
23. Do not operate a Winch if you are not physically fit to do so.
24. Do not do anything you believe may be unsafe.
25. Do not use the Winch rope as a ground for welding. Do not attach a welding electrode to a Winch or sling chain.
26. Do not divert your attention from the load while operating a Winch.
27. Do not leave a load suspended for any extended period—never unattended.
28. Never splice a sling chain by inserting a bolt between links.
29. Do not force a chain or hook into place by hammering. Do not insert the point of the hook into a chain link.
30. Do not expose the sling chain to freezing temperatures, and do not apply sudden loads to a cold chain.

## LUBRICATION

**Warning: Do not operate this Utility Winch until you have lubricated the motor and gearing in accordance with the following instructions.**

To avoid leakage during shipment, the oil was drained from the motor and gearing. A quantity of oil sufficient for one filling is contained in the can packed with the Winch. Before using the Winch, make certain the three Plugs (2 and 3) are screwed securely into place. Unscrew the Vent Cap (4) and pour the entire contents of the can into the opening in the top of the Motor Case (1).

**Check the oil level daily. The oil level must be even with the opening in the side of the Motor Case.**

**When the Winch is not subjected to freezing temperatures:** After the Winch has been idle for several hours or overnight, loosen the Drain Plug (2) located at the bottom of the Motor Case (1) and allow the accumulated water to drain out. After draining the water, tighten the Plug in the bottom and remove the Plug (2) on the side of the Motor Case. Unscrew the Vent Cap (4) and pour a sufficient quantity of the recommended oil through this opening to bring the oil level up to the side opening. Replace the Plug and Vent Cap.

**When the Winch is subjected to freezing temperatures:** Allow the Winch to remain idle long enough for the water content in the Motor Case (1) to separate from the oil, but not long enough for it to freeze. Drain the water and replenish the oil as above. Should this procedure be impractical, drain the entire contents of the Motor Case immediately after operation ceases, and pour the oil back into the Motor Case before resuming operation. If not drained a sufficient quantity of water will eventually accumulate so that the Oil Splasher (37), which is attached to the Crank (36), will freeze fast.

**For Temperatures 30° to 80° F (-1° C to 26° C), use Ingersoll-Rand Pneu-Lube<sup>®</sup> Medium Oil No. 50 or SAE 20 or 20W motor oil**

**For Temperatures below 30° F (-1° C), use SAE 10 or 10W motor oil.**

**For Temperatures above 80° F (26° C), use SAE 30 motor oil.**

We recommend the use of an air line lubricator with the Utility Winch. This will improve the efficiency and prolong the life of the motor.

## Throttle Valve Lubrication

**Weekly**, insert a small quantity of Ingersoll-Rand Light Grease No. 28 or a good quality No. 2 Cup Grease into the Grease Fittings (14) located in the Valve Chest (10). Two or three strokes from the No. P25-228 Grease Gun is an ample amount for each Fitting.

## HOSE AND HOSE CONNECTIONS

Use 1-1/4" (32 mm) hose with a suitable hose for attaching it to the inlet. Use of smaller hose and fittings will reduce the efficiency of the Winch.

## MOUNTING

Mount the Winch so that the axis of the Rope Drum (84) is horizontal. Operation of the Winch with the axis of the Drum more than 10° from horizontal will result in lubrication difficulties and the Wire Rope will tend to pile up on the low end of the Drum.

The Motor Case can be rotated to any one of five different positions. The Motor Case must be repositioned when the Winch is to be mounted in such a way that the Drain Plug (2) is more than 25 degrees off bottom vertical center. To change the position of the Motor Case:

1. Drain the oil.
2. Unscrew the ten Motor Case Screws (57).
3. Rotate the Motor Case to bring the Drain Plug as near bottom vertical center as possible.
4. Replace the Cap Screws.
5. Fill with oil.

The Winch should not be operated in such a position that one of the Cylinders (48) is directly at the bottom.

## MAINTENANCE INSTRUCTIONS

Apply the Wire Rope to wind on the Rope Drum in the direction indicated by the instruction plate on the Winch.

Adjust the brake so that considerable pressure is required to push the Brake Lever (104) past center for locking. Threading the Brake Adjusting Nut (109) further onto the Screw (108) tightens the brake; backing the Nut off loosens the brake.

Remove the Throttle Valve Spring (21), Poppet Throttle Valve (20) and Throttle Valve Ball (22) from the Valve Chest (10) before attempting to withdraw the Reverse Valve Bushing (13).

The following procedure is recommended when replacing the Rotary Valve Bushing (12) or Reverse Valve Bushing (13):

1. Unscrew the Valve Chest Screws (18) and remove the Valve Chest Cover (17).
2. Screw a No. HU-932 Jack Bolt into each tapped lug on the Valve Chest (10) until the Jack Bolts contact the Motor Case (1). Turn each Bolt a little at a time to jack the Valve Chest from the Motor Case.
3. Unscrew the Throttle Valve Cap (23) and remove the Spring (21), Poppet Throttle Valve (20) and Ball (22) from the Valve Chest (10).
4. Withdraw the Rotary Valve (25), Reverse Valve (24) and remove the Throttle Lever Spring (35).
5. Support the face of the Valve Chest (10) that contacts the Motor Case (1), and press out the old Bushings with an arbor **that will clear the Bushing Keys (11)**. **Caution:** Failure to use an arbor that will clear the Bushing Keys, or pressing the Bushings in the opposite direction will destroy the Keys.
6. While supporting the face of the Valve Chest (10) that contacts the Valve Chest Cover (17), align the keyslot in the new Reverse Valve Bushing with the Bushing Key (11) and press the Bushing into the Chest until the leading face of the Bushing is flush with the supported face of the Chest. Align the keyslot in the new Rotary Valve Bushing with the Bushing Key and press the Bushing into the Chest until the bushing shoulder is flush with the supported face of the Chest.
7. Insert the No. 23470 Throttle Valve Stem Reamer or a .505" (12.8 mm) hand reamer through the throttle valve chamber in the Valve Chest and ream the hole through the wall of the new Reverse Valve Bushing.
8. Check the fit of the Rotary Valve (25) in the new Rotary Valve Bushing. If the Valve is tighter than a good running fit in the Bushing, lap in the Valve, using a fine grain lapping compound whose abrasive agent will break up rapidly. Remove all trace of the compound with kerosene after obtaining the desired fit.
9. Check the fit of the Reverse Valve (24) in the new Reverse Valve Bushing. If the fit is too tight, ream the Bushing with a 1.875" (47.625 mm) diameter reamer. **Caution:** The Reverse Valve is chrome-plated; do not lap.
10. Rotate the Reverse Valve in the Reverse Valve Bushing until the arrows on the two parts align, and install the Throttle Valve Ball, Poppet Throttle Valve, Spring and Cap.
11. Install the Throttle Lever Spring (35) and Throttle Control Arm (28).
12. Align the holes through the Valve Chest (10) with those in the face of Motor Case (1) and squarely start the protruding end of the Rotary Valve Bushing into the Motor Case. Place a hardwood block on the face of the Valve Chest and press or drive in the Bushing until the Valve Chest contacts the Motor Case.

The two sections of the Crank (36) are matched before final machining, and the web of each section is stamped with an identification mark as AA17, CC21, XX19, etc. Only sections bearing identical markings can be used together. If more than

## MAINTENANCE INSTRUCTIONS (Continued)

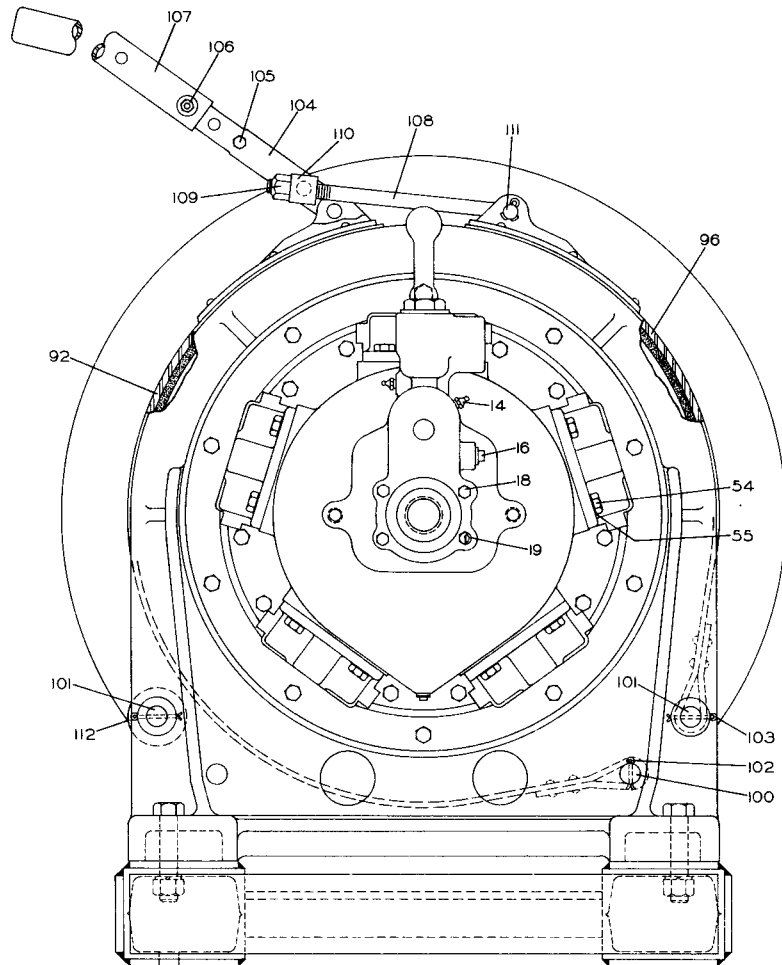
one Crank is disassembled at one time, make certain the matched parts are assembled together.

Slide the Crank Pin Sleeve (39), plain end first, onto the crank pin when assembling the Crank (36).

Install the Connecting Rod Rings (44) so that the internally beveled ends are toward the Connecting Rods (43) when assembling the Crank (36).

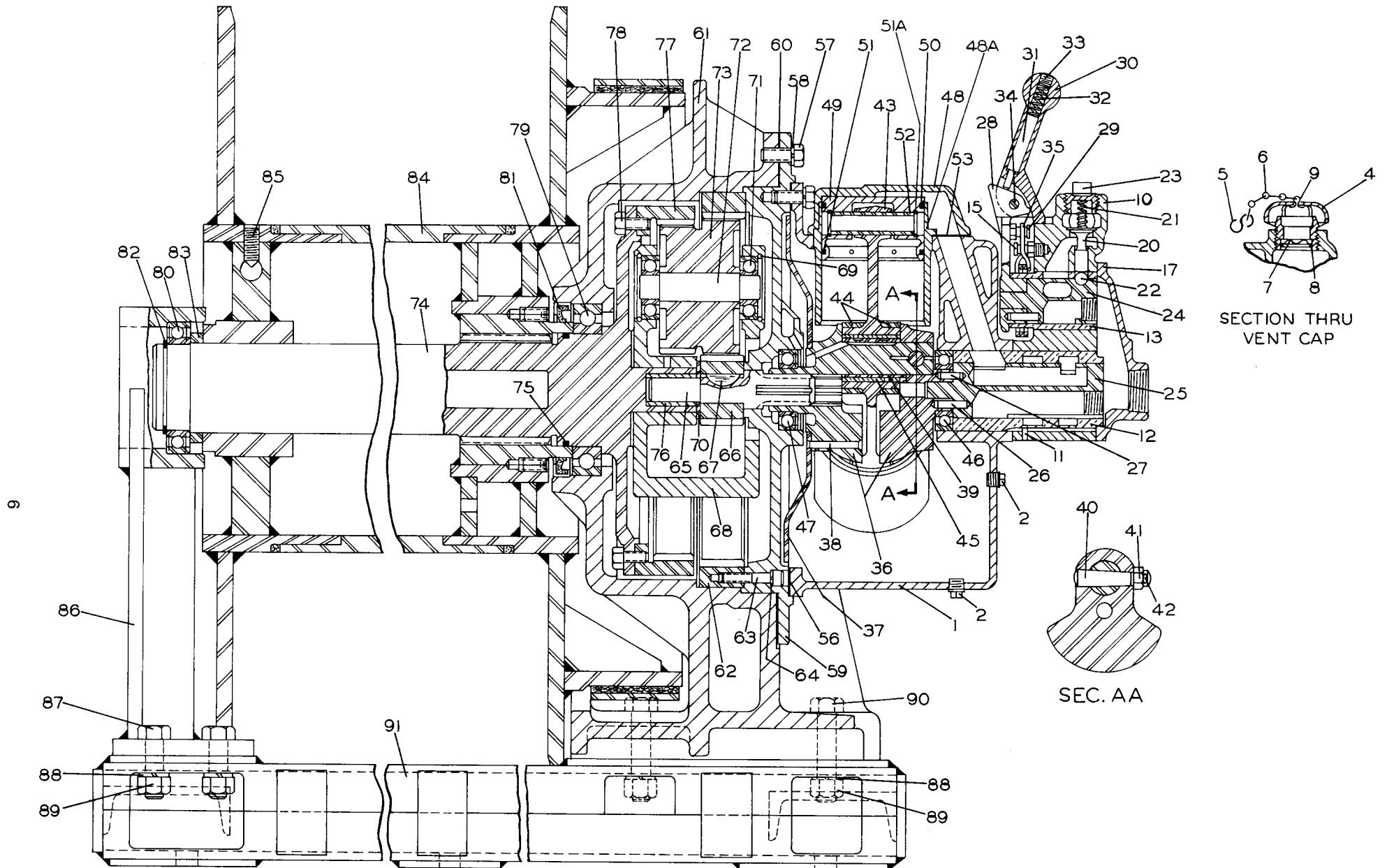
## REPAIR PARTS

The repair parts listed herein are **NOT** Dimetcoated. However, they can be furnished on special order with special pricing. Contact the nearest Ingersoll-Rand Office.



(Dwg. TPB508-1)

Model UW50A30 Utility Winch  
(End View)



Model UW50A30 Utility Winch

## PART NUMBER FOR ORDERING

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1	Motor Case . . . . .	HH5D-501			Cylinder Assembly (5) . . . . .	HH5D-A505A
2	Drain Plug (2) . . . . .	D02-402		48	Cylinder Head . . . . .	HH5D-H505A
*	1-1/4" Pipe Plug . . . . .	E5UD-947		48A	Cylinder Sleeve . . . . .	HH5D-L505A
4	Vent Cap . . . . .	D02-303A		49	Piston Assembly . . . . .	HU-A513B
5	S-Hook . . . . .	D02-421		● 50	Piston Ring (1 for each Piston) . . . . .	HU-337
6	Vent Cap Chain . . . . .	D02-891		● 51	Oil Regulating Ring (1 for each Piston) . . . . .	HU-338
7	Vent Cap Screen . . . . .	D02-889		51A	Retaining Ring (2 for each Piston) . . . . .	902A45-632
8	Vent Cap Screen Retainer . . . . .	6CND-233-1/2		52	Piston Wrist Pin (1 for each Piston) . . . . .	HU-514A
9	Vent Cap Cotter . . . . .	D02-893		● 53	Cylinder Gasket (5) . . . . .	HU-507
	Valve Chest Assembly . . . . .	UW50A30-A545		54	Cylinder Cap Screw (20) . . . . .	D10-354
10	Valve Chest . . . . .	H5U-545		55	Cylinder Cap Screw Washer (copper) (20) . . . . .	HU-504
11	Bushing Key (2) . . . . .	HU-538		● 56	Motor Case Gasket . . . . .	HH5D-592
12	Rotary Valve Bushing . . . . .	HH5D-525S		57	Motor Case Screw or Motor Cover Screw (20) . . . . .	215-148
13	Reverse Valve Bushing . . . . .	H5U-945S		58	1/2" Lock Washer (20) . . . . .	D10-322
14	Grease Fitting (2) . . . . .	23-188		59	Motor Cover . . . . .	UW50A30-502
15	Throttle Lever Spring Stop Pin . . . . .	D02-553		● 60	Motor Cover Gasket . . . . .	UW50A30-592
16	Brake Inlet Plug . . . . .	D02-402		61	Gear Case . . . . .	UW50A30-353
17	Valve Chest Cover . . . . .	H5U-546		62	Internal Gear . . . . .	UW50A30-797
18	Valve Chest Screw (4) . . . . .	HU-548		63	Internal Gear Screw (10) . . . . .	AHC68-22
19	3/8" Lock Washer (4) . . . . .	D02-321		64	3/8" Lock Washer (10) . . . . .	UW50A30-58
20	Poppet Throttle Valve . . . . .	KU-940		65	Motor Shaft . . . . .	UW50A30-316
● 21	Poppet Throttle Valve Spring . . . . .	HU-942		66	Motor Shaft Pinion . . . . .	D10-319A
22	Poppet Throttle Valve Ball . . . . .	D10-280		67	Motor Shaft Pinion Key . . . . .	D10-320
23	Poppet Throttle Valve Cap . . . . .	KU-943			Intermediate Gear Frame Assembly . . . . .	D20-A367A
24	Reverse Valve Assembly . . . . .	H5U-A944		68	Intermediate Gear Frame . . . . .	D10-367A
*	Reverse Valve O-ring . . . . .	R0B2J73-359		69	Bearing Retaining Ring (6) . . . . .	D10-340
25	Rotary Valve . . . . .	H5U-526R		70	Pinion Thrust Washer . . . . .	D20-397
● 26	Large Valve Drive Pin . . . . .	HU-527		71	Intermediate Gear Shaft Bearing . . . . .	D10-366
● 27	Small Valve Drive Pin (2) . . . . .	HU-627		72	Intermediate Gear Shaft (3) . . . . .	D10-365
28	Throttle Control Arm . . . . .	HU-555A		73	Intermediate Gear (3) . . . . .	D10-364A
29	Throttle Lever Spring Stop Pin . . . . .	D02-553		74	Drum Shaft Assembly . . . . .	UW50A30-A459
● 30	Throttle Lever . . . . .	HU-556		● 75	Drum Shaft Seal . . . . .	UW50A30-103
31	Throttle Lever Latch . . . . .	HU-869		76	Drum Shaft Bushing . . . . .	D04-355
● 32	Throttle Lever Latch Spring . . . . .	HU-567		77	Drum Shaft Gear . . . . .	D10-798A
33	Throttle Lever Setscrew . . . . .	HU-842		78	Drum Shaft Cap Screw (8) . . . . .	D10-799
34	Throttle Lever Pin . . . . .	HU-870		● 79	Drum Bearing Motor End . . . . .	UW50A30-466
*	Throttle Lever Pin Cotter (2) . . . . .	D02-524		● 80	Drum Bearing Bracket End . . . . .	C6H40A-466
● 35	Throttle Lever Spring . . . . .	HU-412		● 81	Gear Case Seal . . . . .	UW50A30-137
	Crank Assembly . . . . .	H5U-A516		82	Bearing Retaining Ring . . . . .	UW50A30-119
36	Crank Bare (consists of 2 matched parts which are not sold separately) . . . . .			83	Drum Bearing Spacer . . . . .	UW50A30-469
37	Oil Splasher . . . . .	HU-516		84	Rope Drum Assembly . . . . .	UW50A30-324
38	Oil Splasher Long Rivet (2) . . . . .	HU-540		85	Rope Setscrew (2) . . . . .	K6U-381
*	Oil Splasher Short Rivet (2) . . . . .	HU-541		86	Drum Support Bracket . . . . .	UW50A30-677
● 39	Crank Pin Sleeve . . . . .	HU-542		87	Support Bracket Bolt (4) . . . . .	EU-775
40	Crank Lock Pin . . . . .	HU-519		88	3/4" Lock Washer (8) . . . . .	DU-563
41	Crank Lock Pin Nut . . . . .	HU-520		89	3/4" Nut (8) . . . . .	DU-562
42	Crank Lock Pin Nut . . . . .	D02-394		90	Gear Case Mounting Bolt (4 for Manual Brake; 3 for Automatic Brake) . . . . .	K6U-775
42	Crank Lock Pin Cotter . . . . .	D02-524		91	Base . . . . .	UW50A30-564
● 43	Connecting Rod (5) . . . . .	HH5D-509				
44	Connecting Rod Ring (2) . . . . .	HU-510				
● 45	Connecting Rod Bushing . . . . .	HU-511				
● 46	Crank Valve End Bearing . . . . .	HU-518				
● 47	Crank Pin End Bearing . . . . .	HUD-895				

\* 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.

PART NUMBER FOR ORDERING

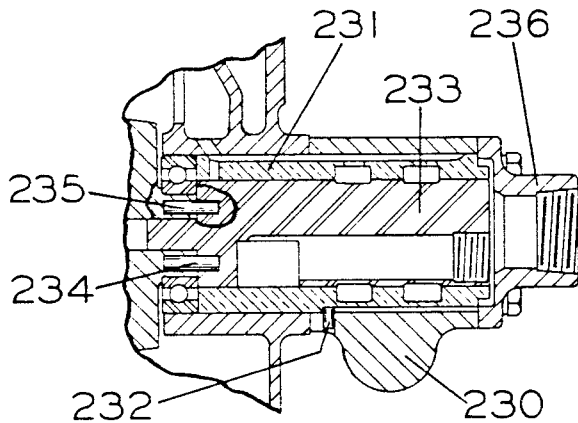
PART NUMBER FOR ORDERING

● 92	Long Brake Band . . . . .	K6U-252	107	Brake Lever Extension. . . . .	231-625
● 96	Short Brake Band . . . . .	K6U-152	108	Brake Adjusting Screw. . . . .	231-719
100	Long Brake Band Pin . . . . .	UW50A30-206	109	Brake Adjusting Nut . . . . .	D01-341A
101	Short Brake Band Pin (2) . . . . .	UW50A30-207	110	Brake Trunnion. . . . .	215-159
102	1/8" x 1-1/4" Cotter (4) . . . . .	D02-330	111	Brake Bracket Pin . . . . .	K6U-147
103	1/8" x 2" Cotter (2) . . . . .	RC5-865	112	Brake Support . . . . .	K6U-161A
104	Brake Lever. . . . .	231-715			
105	Brake Lever Bolt (2) . . . . .	D10-312			
106	Brake Lever Bolt Nut (2) . . . . .	WF171-13			
*	Brake Lever Screw . . . . .	R0H-354			

\* Not illustrated.

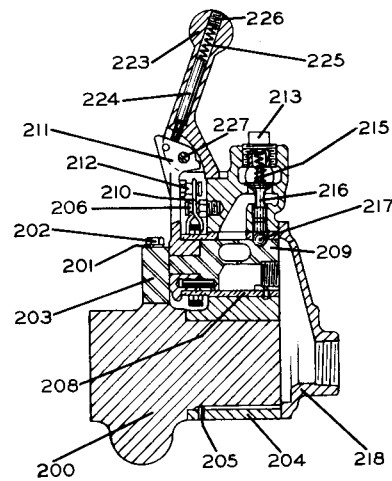
● To keep downtime to a minimum, it is desirable to have on hand certain repair parts. We recommend that you stock one (pair or set) of each part indicated by a bullet (●) for every four tools in service.

REMOTE CONTROL



(Dwg. TPD206)

Remote Control Valve Chest



(Dwg. TPD201)

Remote Control Block Assembly

PART NUMBER FOR ORDERING

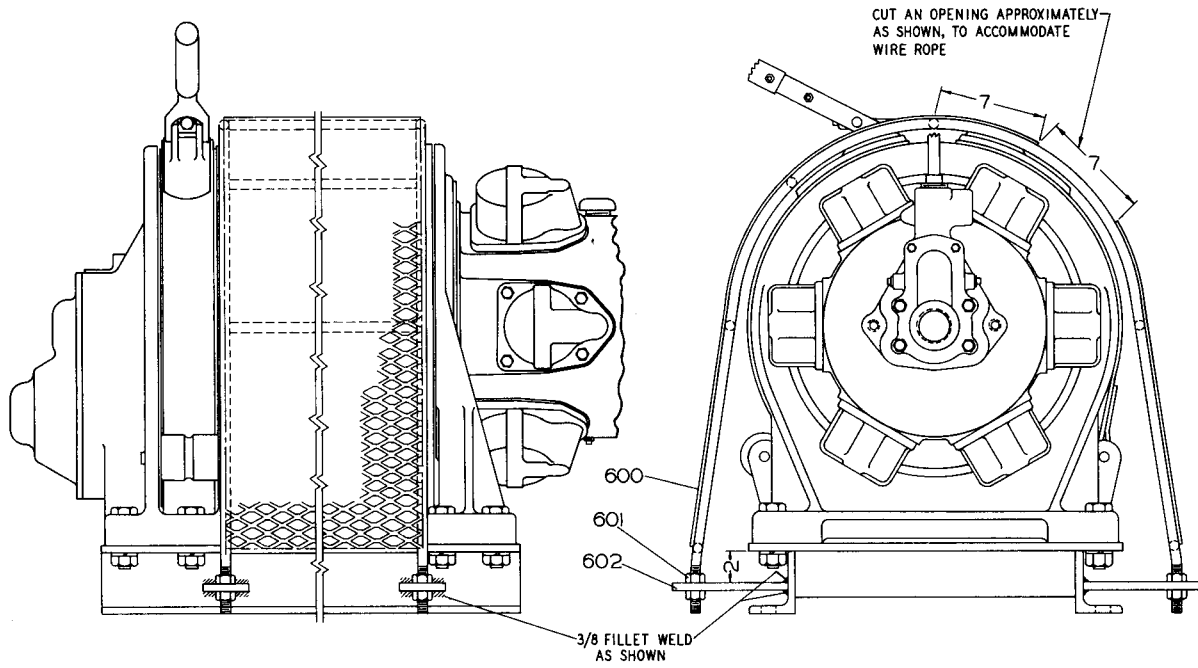
PART NUMBER FOR ORDERING

	Remote Control Block Assembly for Winch with Standard Brake. . . . .	KU-A685	216	Control Block Poppet Throttle Valve. . . . .	KU-940
	for Winch with Auto- matic Brake . . . . .	KU-B685	217	Control Block Throttle Valve Ball . . . . .	D10-280
200	Remote Control Block . . . . .	KU-685	218	Control Block Valve Chest Cover . . . . .	KU-546A
201	3/8" Lock Washer (2) . . . . .	D02-321	223	Control Block Throttle Lever . . . . .	HU-556
202	Control Arm Retainer Screw (2) . . . . .	HU-865	224	Throttle Lever Latch . . . . .	HU-869
203	Control Arm Retainer . . . . .	HU-687	225	Latch Spring. . . . .	HU-567
204	Control Block Valve Chest. . . . .	KU-876A	226	Throttle Lever Setscrew . . . . .	HU-842
205	Bushing Key . . . . .	HU-538	227	Throttle Lever Pin . . . . .	HU-870
206	Throttle Lever Spring Stop Pin . . . . .	D02-553	*	Throttle Lever Pin Cotter (2) . . . . .	D02-524
208	Control Block Reverse Valve Bushing. . . . .	KU-945		Remote Control Valve Chest Assembly . . . . .	H5U-A686
*	Grease Fitting (2) . . . . .	23-188	230	Remote Control Valve Chest . . . . .	H5M-545
209	Control Block Reverse Valve for Winch with Standard Brake. . . . .	KU-944	231	Rotary Valve Bushing . . . . .	HH5D-525
	for Winch with Auto- matic Brake . . . . .	KU-744	232	Bushing Key . . . . .	HU-538
210	Control Block Throttle Lever Spring . . . . .	KU-412	233	Rotary Valve . . . . .	H5U-526R
211	Control Block Throttle Arm . . . . .	KU-555A	234	Large Valve Drive Pin. . . . .	HU-527
212	Throttle Lever Spring Stop Pin . . . . .	D02-553	235	Small Valve Drive Pin (2) . . . . .	HU-627
213	Control Block Throttle Valve Cap . . . . .	KU-943	236	Remote Control Valve Chest Cover. . . . .	HX-546
215	Control Block Throttle Valve Spring . . . . .	HU-942	*	Valve Chest Screw (4) . . . . .	HU-548
			*	3/8" Lock Washer (4) . . . . .	D02-321
			*	Winch Nameplate. . . . .	DU-301
			*	Nameplate Screw (4). . . . .	R4K-302
			*	Caution Tag. . . . .	TA-147A
			*	Caution Tag Screw (4). . . . .	R4K-302

\* Not illustrated.



# DRUM GUARD

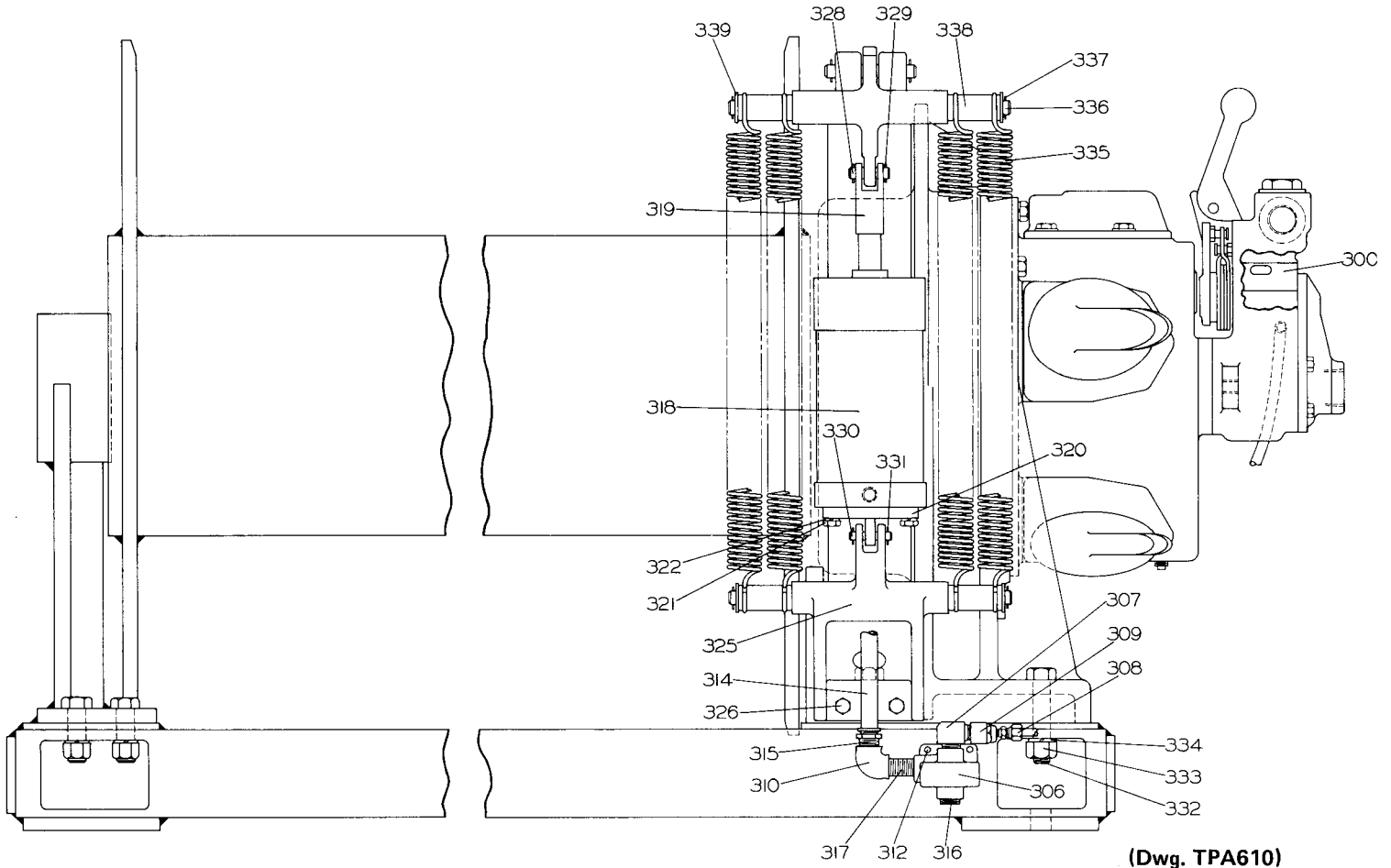


(Dwg. TPB565)

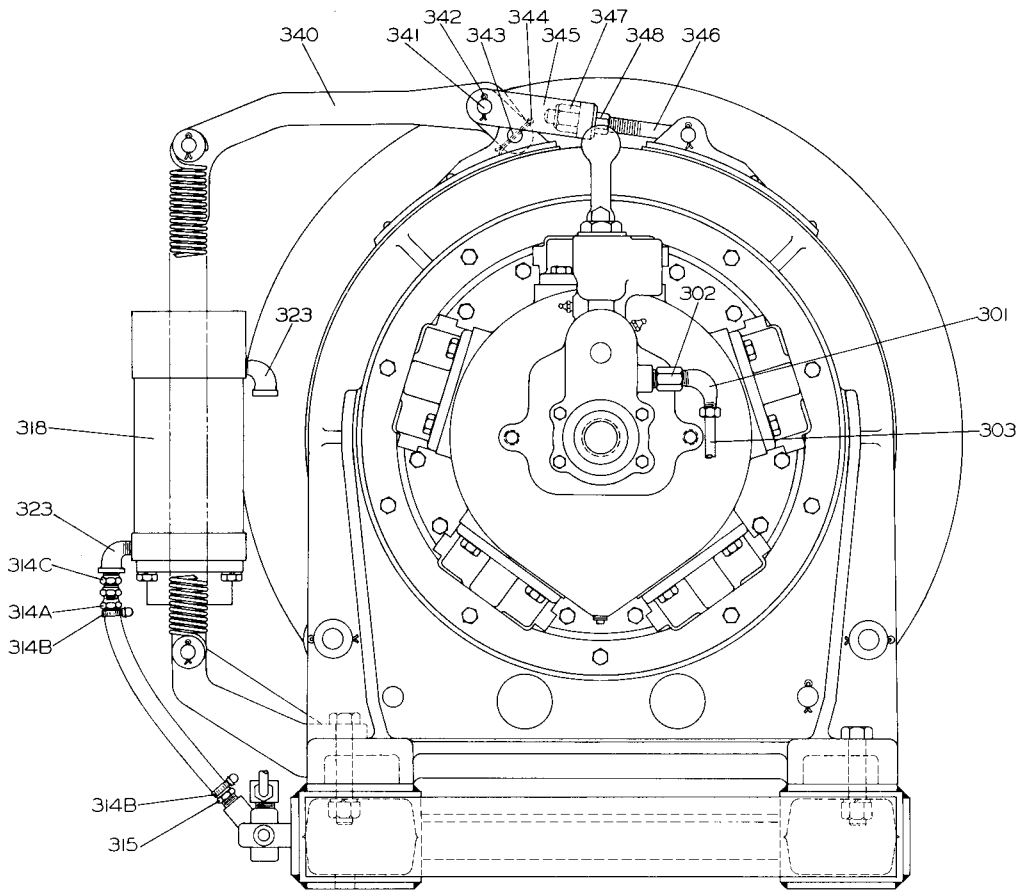
PART NUMBER FOR ORDERING

600	Drum Guard . . . . .	UW50A30-298
601	5/8"-11 thd. Nut (8) . . . . .	K6U-8
602	Plate (4) . . . . .	K6UL36-299

# AUTOMATIC BRAKE PARTS



(Dwg. TPA610)



(Continued on Page 10.)

(Dwg. TPA609-1)

## AUTOMATIC BRAKE PARTS (Continued)

PART NUMBER FOR ORDERING

	Automatic Brake Valve Chest Assembly (includes illustrated parts 10, 11 (2), 12, 13, 14 (2), 15, 17, 18 (4), 19 (4), 20, 21, 22, 23, 25, 26 and 27) . . . . .	UW50A30-B545
300	Automatic Brake Reverse Valve Assembly . . . . .	H5U-A744
*	Reverse Valve O-ring . . . . .	R0B2J73-359
301	Brake Pipe Elbow . . . . .	K4U-400
302	Brake Connection Bushing . . . . .	HU-547
303	Brake Pipe. . . . .	K6U-401
*	Brake Pipe Strap . . . . .	HU-727
*	Brake Pipe Strap Screw . . . . .	CE110-112
	Brake Exhaust Valve Assembly . . . . .	K6U-A733
306	Brake Exhaust Valve . . . . .	HU-733
307	Exhaust Valve Ell. . . . .	HU-745
308	Brake Connection. . . . .	K4U-711
309	Brake Air Strainer Assembly. . . . .	R0B2-A565
310	1/4" 90° Elbow. . . . .	HUS-902
*	Screw (used with Bracket mounted Exhaust Valve (2)). . . . .	R3-7A
*	Exhaust Valve Bolt Nut (2) . . . . .	D02-428
312	Exhaust Valve Bolt (2) . . . . .	SP9-11B
*	Valve Bolt Lock Washer (2) . . . . .	T11-58
314	Exhaust Valve Hose. . . . .	K6U-731A
314A	Exhaust Valve Hose Nipple . . . . .	RV1-46
314B	Hose Clamp (2) . . . . .	K6U-4
314C	Hose Union . . . . .	MR-129
315	Exhaust Valve Hose Nipple . . . . .	D01-14
316	Drain Plug . . . . .	D02-402
317	1/4" Nipple . . . . .	HUS-908
● 318	Brake Cylinder . . . . .	K6U-720
319	Brake Cylinder Yoke . . . . .	K6U-719A
320	Cylinder Base . . . . .	K6U-717
321	Cylinder Base Cap Screw (4). . . . .	K6U-716
322	Base Cap Screw Lock Washer (4) . . . . .	D02-321
323	3/8" Street Ell (2) . . . . .	12SR-8
325	Brake Cylinder Bracket . . . . .	K6U-721
326	Cylinder Bracket Cap Screw (2) . . . . .	215-36
*	Bracket Cap Screw Lock Washer (2) . . . . .	A-67
328	Brake Yoke Pin. . . . .	22-720
329	Brake Yoke Pin Cotter (2) (1/8" x 1-1/4") . . . . .	D02-330
330	Cylinder Bracket Pin. . . . .	HU-870
331	Cylinder Bracket Pin Cotter (2) (3/32" x 3/4") . . . . .	D02-524
332	Cylinder Bracket Bolt . . . . .	K6UL-775
333	Bracket Bolt Nut . . . . .	DU-562
334	Bracket Bolt Lock Washer. . . . .	D01-692
● 335	Brake Spring (4) . . . . .	K4U-726
336	Brake Spring Pin (2) . . . . .	K6U-735
337	Brake Spring Pin Cotter (4) (1/8" x 1-1/4") . . . . .	D02-330
338	Brake Spring Pin Sleeve (4) . . . . .	K6U-736
339	Brake Spring Pin Washer (4) . . . . .	24-741
340	Automatic Brake Lever . . . . .	K6U-718
341	Brake Lever Pin. . . . .	K6U-149
342	Brake Lever Pin Cotter (2) (1/8" x 1-1/4") . . . . .	D02-330
343	Brake Bracket Short Pin. . . . .	K6U-148
344	Brake Bracket Short Pin Cotter (1/8" x 2") . . . . .	RCS-865
345	Automatic Brake Adjusting Screw Yoke . . . . .	K6U-759
346	Automatic Brake Adjusting Screw . . . . .	K6U-758
347	Automatic Brake Adjusting Nut . . . . .	K6U-760
348	Automatic Brake Adjusting Screw Locknut. . . . .	D01-305

\* 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.

## MAINTENANCE TOOLS

TOOL NUMBER FOR ORDERING	TOOL NAME FOR ORDERING	OPERATION
P25-228	Grease Gun . . . . .	Lubrication.
HU-932	Valve Chest Jack Bolt (2 required) . . . . .	Removing the Valve Chest (10) from the Motor Case (1).
HU-933	Piston Ring Compressor . . . . .	Compressing the Piston Rings (50 and 51) when installing the Cylinder (48).
23470	Throttle Valve Stem Reamer . . . . .	Reaming the throttle valve stem hole in the Reverse Valve Bushing (13) after installing a new Bushing.
25670	Throttle Valve Seat Reamer. . . . .	Refacing the seat for the Poppet Throttle Valve (20) in the Valve Chest (10).

## CONVERSION KITS

### UW50A30-C721 Automatic Brake Kit.

For converting winches with manual throttle to manual throttle with automatic brake.

### HSU-RC685 Remote Control Kit.

For converting manual throttle winches without automatic brake to remote control.

### HSU-RC685AB Remote Control Kit.

For converting manual throttle winches with automatic brake to remote control.