



No. 10 AC AND DC YOUNGSTOWN® POWER LIMIT SWITCH TYPE BG SERIES A

INSTALLATION

The #10 YOUNGSTOWN POWER LIMIT SWITCH for crane hoist service must be mounted in the horizontal position. The weight arm can be bolted to the operating shaft in either of two positions, 180° apart. The limit switch is normally assembled for right-hand operation. It is desirable to mount the limit switch such that the suspended weight is directly over the hook-block with one of the hoisting cables passing through the bakelite guide tube on the suspended weight. This tube is split and clamped with "U" straps to facilitate installation. A bracket or platform should be attached to the hook-block for the purpose of lifting the weight.

A special 90° weight arm may be optionally supplied. If the limit switch cannot be so mounted that the suspended weight hangs directly over the hook-block, an auxiliary sheave and this 90° weight arm can be used. Since the steel cable is $\frac{3}{8}$ " in diameter, it is recommended that the sheave be at least 8" in diameter. The bearings in the sheave should be as free from friction as possible at all times.

CAUTION should be taken in mounting the limit switch to keep the space clear under the heavy end of the weight arm; otherwise obstructions may interfere with the switch operation. When the switch is floor-mounted, it is recommended that an opening be cut in the floor at this point.

FOR LEFT-HAND OPERATION, turn the weight arm 180° about the vertical line through the shaft center and change wiring connections in accordance with the wiring diagram.

The weight hangs down a maximum of 113" when the standard amount of cable is used. The limit switch trips when this weight is lifted approximately 2½" and reset when the weight is lowered to a point approximately ¾" above the normal position.

Since no special connections are required between the limit switch and the hoist controller, no additional trolley bars are required along the crane girders.

MAINTENANCE

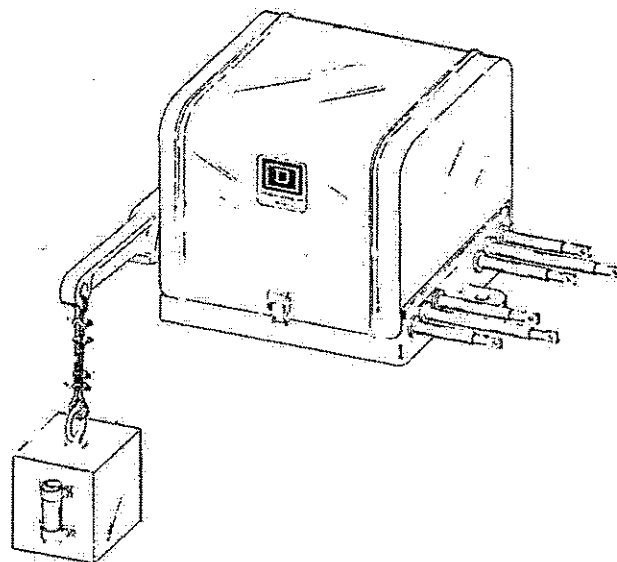
Contacts should be checked periodically for contact wear allowance (follow-up). The contacts should be replaced when the wear allowance approaches zero. No adjustment of contacts is necessary beyond proper alignment. Be sure the cover is always replaced after inspection.

LUBRICATION

No lubrication is required as bearings are sealed cartridge ball bearings.

RATING — MAX. H.P.

230V D.C.	550V D.C.	220V A.C.	440/550V A.C.
50	50	50	100



DC OPERATION

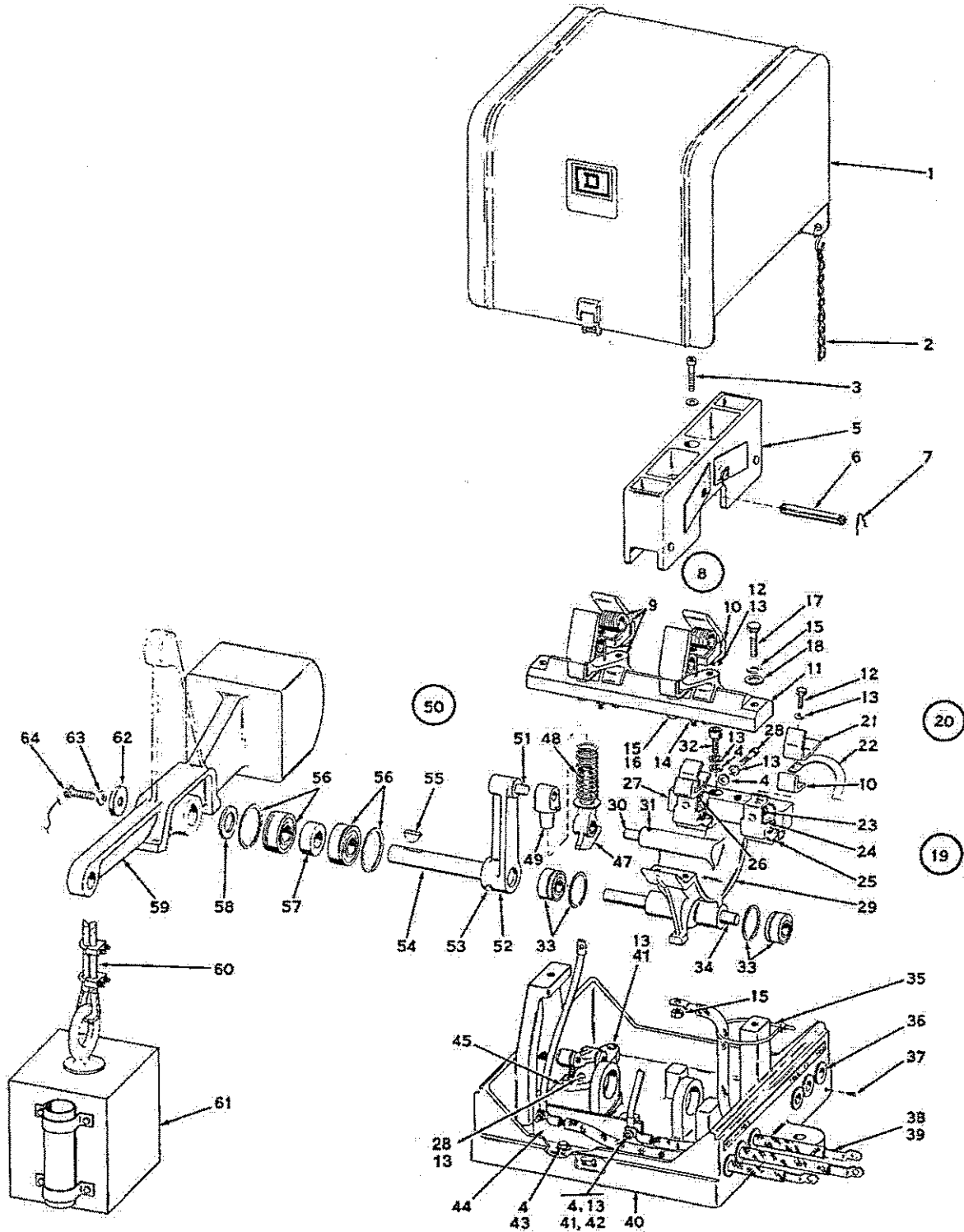
The #10 Youngstown Power Limit Switch has double-pole, double-throw contacts. When the switch is "tripped" by over-travel of the hoist, two normally closed contacts are opened to remove power from the motor and two normally open contacts are closed to provide a dynamic braking circuit. In order to reset the limit switch, the hook-block must be lowered by the controller until the suspended weight has traveled to the reset position.

AC OPERATION

The #10 Youngstown Power Limit Switch has double-pole, double-throw contacts. Tripping the limit switch opens two leads to the motor and brake, removing power and allowing the brake to set.

CAUTION: THE YOUNGSTOWN POWER LIMIT SWITCH IS INTENDED PRIMARILY AS AN EMERGENCY DEVICE TO PREVENT THE CRANE OPERATOR FROM RUNNING THE HOOK-BLOCK INTO THE HOISTING DRUM. IT IS NOT INTENDED TO TAKE THE PLACE OF THE OFF-POINT ON THE CONTROLLER. THE OPERATOR SHOULD AIM TO STOP HOISTING BEFORE THE FINAL LIMIT IS REACHED. REPEATED UNNECESSARY OPERATION OF THE SWITCH BECAUSE OF CARELESSNESS IN THIS REGARD WILL RESULT IN EXCESSIVE BURNING AND WEAR ON THE CONTACT TIPS.





Item	Part Number	Description	Item	Part Number	Description
1	A5-1065-011-50	Cover	31	See Item #19	3/16x1" Lg. Rollpin
2	A5-1065-033-50	Cover Chain	32	21601-20400	Socket Head Cap Screw, (4 Req'd.)
3	21601-20480	Socket Head Cap Screw, (2 Req'd.)	33	FP-24L10	Bearing, (2 Req'd.)
4	23601-00200	.265 I. D. Standard Washer, (26 Req'd.)	34	B5-0502-276-24	Contact Arm Shaft
5	A5-1065-015-50	Arc Chute, (2 Req'd.)	35	25901	Cable-Ty-Rap
6	X-1218	Blowout Core, (4 Req'd.)	36	X-1327	Grommet, (6 Req'd.)
7	RS-130	Hairpin Cotter, (8 Req'd.)	37	21008-06120	Type U Drive Screw
8	A5-1065-012-50	Assembled Contact Beam (Includes Items 9 thru 16)	38	A5-1065-028-50	Assembled Lead, (5 Req'd.)
9	A5-1065-020-50	Assembled Blowout Coil and Bracket, (2 Req'd.)	39	A5-1065-028-51	Assembled Lead
10	ZCX-60	Contact Tip, (8 Req'd.)	40	D5-1065-010-50	Assembled Frame
11	A5-1065-017-01	Contact Beam	41	21401-20320	Hex Head Cap Screw, (5 Req'd.)
12	21401-20240	Hex Head Cap Screw, (8 Req'd.)	42	23002-00200	Hex Nut, (4 Req'd.)
13	23701-00200	Lock Washer, (22 Req'd.)	*43	21401-20200	1/4"-20 x 3/8" Hex Head Screw, (2 Req'd.)
14	23002-00220	Hex Nut, (2 Req'd.)	44	A5-1065-027-01	Terminal Board, (2 Req'd.)
15	23701-00220	Lock Washer, (8 Req'd.)	45	A5-1065-034-50	Assembled Roller Bracket
16	21401-22660	Hex Head Cap Screw, (4 Req'd.)	47	X-153A	Assembled Cam
17	21401-22480	Hex Head Cap Screw, (2 Req'd.)	48	X-112	Toggle Spring
18	23601-00220	.328 I. D. Standard Washer, (2 Req'd.)	49	X-158	Spring Seat
19	A5-1065-013-50	Assembled Contact Arm (Includes Items 20 thru 31)	50	A5-1065-014-50	Assembled Operating Arm (Includes Items 51 thru 54)
20	A5-1065-025-50	Assembled Arm Insulator (Includes Items 21 thru 28)	51	B5-0502-226-05	Pin
21	A5-1065-024-01	Arc guard, (4 Req'd.)	52	A5-1065-014-50	Operating Arm
22	A5-1065-023-50	Assembled Flexible Connector, (4 Req'd.)	53	24202-06640	#6x2" Taper Pin
23	51065-060-50	Auxiliary Contact Arm, (4 Req'd.)	54	A5-1065-029-01	Operating Shaft
24	24209-16440	1/4 x 1 1/2" Lg. Rollpin, (4 Req'd.)	55	29002-36300	3/8x3/8" Woodruff Key
25	51065-065-01	Auxiliary Arm Bracket, (4 Req'd.)	56	B5-0502-005-24	Bearing, (2 Req'd.)
26	X-174	Contact Spring, (4 Req'd.)	57	X-1330	Spacer
27	A5-1065-022-01	Moving Contact Block, (2 Req'd.)	58	X-1330	Washer
28	21401-20320	Hex Head Cap Screw, (5 Req'd.)	59	C5-1065-030-50	Assembled Weight Arm
29	See Item #19	Contact Arm		C5-1065-031-50	Assembled 90° Weight Arm
30	B5-0502-226-05	Pin	60	X-2125A	Assembled Wire Rope
			61	X-1126A	Assembled Suspended Weight
			62	X-1316	Cap Washer
			63	23701-00240	Lock Washer
			64	X-1334	Hex Head Cap Screw (Special)

ADVISE NAMEPLATE MARKING WHEN ORDERING PARTS

