

WESTINGHOUSE INDUSTRIAL MOTORS AND CONTROLLERS

CLASS 8512—TIMESTARTERS

(For Constant and Adjustable Speed Direct-Current Motors)

INSTRUCTIONS

Application

Class 8512 Timestarters comprise a complete line of remote-controlled, magnetic starters for constant and adjustable speed direct-current motors in sizes up to 10 hp., 230 volts. They provide three points of definite time limit acceleration, permitting safe and accurate starting of the motor under full or partial load.

Four combinations of these starters make them applicable to a wide range of uses in industrial and building applications. Class 8512-A, for constant speed motors, does not provide overload protection or dynamic braking. Class 8512-B, for constant speed motors, provides thermal relay overload protection but not dynamic braking. Class 8512-C, for constant speed motors, provides overload protection and dynamic braking. Class 8512-F, for adjustable speed motors, provides overload protection, dynamic braking and full field starting.

Installation

Remove the panel by unscrewing the three round head mounting screws. Mount the case on the wall or machine, make conduit connections and draw in leads. The leads should be reasonably long to facilitate connecting. Replace the panel.

Before making any connections, be certain that all the lines to be handled are dead. Connect leads according to diagram as furnished with starter, making connections to the power leads last. A fused safety switch should be connected in the circuit ahead of the

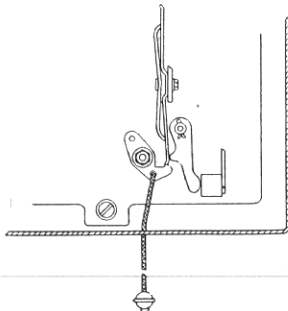


FIG. 2

When overload relay is supplied, **TIMESTARTER** is shipped with overload relay hand reset cord coiled in box. To install, remove reset cord and attach as shown in Fig. 2. If automatic reset is desired, remove latch, spring, and reset cord.

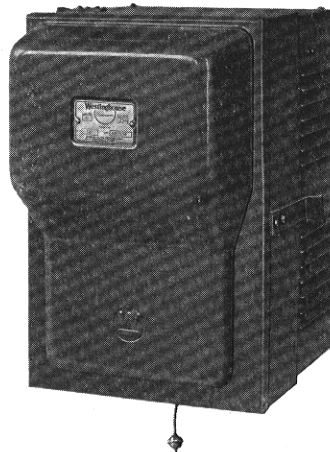


FIG. 1—THE OUTWARD APPEARANCE OF TIMESTARTERS OF THE STANDARD LINE IS UNIFORM.

starter for short circuit protection. The fuses should have a rating of 250% of the motor full load current.

Distinctive Features

Easy adjustment of a clock escapement mechanism permits changing of accelerating time to accurately and definitely suit the application requirements.

Reliable motor protection is assured by interchangeable heaters and the extremely accurate calibration of thermal overload relay.

Combination automatic and hand reset overload relay permits remote mounting with minimum operator attention.

Clean contact surfaces are assured by sliding action between the contacts. A rolling action between the contacts prevents their sticking or "freezing".

Compact steel cabinet permits mounting at most convenient location. Its conduit knockouts simplify making connections from any side.

Operation

Check starter name plate rating with the motor as to voltage and horsepower.

When overload relay is supplied—Trip overload relay by hand to see that it operates properly. Check heater rating; value stamped on heater should be between 115 and 125% of motor's full load current. See that relay calibration lever is at proper setting; current stamped on heater will ultimately trip the relay with the calibration lever set at the 100 per cent setting.

To increase, move the lever toward 120 per cent. Tripping value should be changed only by means of calibration lever.

Before voltage is applied, inspect starter unit to see that parts work freely, nuts and screws are tight, and terminals and current carrying parts are clean and making good contact.

Construction

The complete line of Timestarters is of standardized construction. By the addition of certain parts to a standard chassis, the different combinations are made possible. The standard chassis consists essentially of a three-point accelerating contactor, mechanically connected to an ingenious clock escapement mechanism. These are mounted as a unit on a tough molded insulating base. Bobbin type resistors, mounted on the rear of this unit, provide the necessary resistance between points of acceleration.

The cabinet dimensions, with the exception of the increased depth, are the same as the popular A-C. Class 11-200-H **LINESTARTER**, and mounting holes and knockouts are located at the same places.

Care and Maintenance

Before opening cover to inspect or adjust starter, see that the disconnecting switch is open. Inspect the starter monthly or often enough to see that parts are in good operating condition. Shunts should not be broken or touch other parts. Pitted or burned contact tips may be dressed with sandpaper or small file; do not use emery cloth. Do not oil the starter.

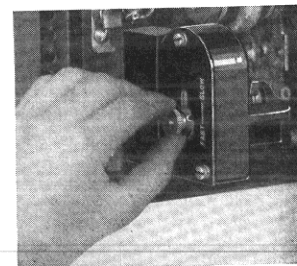


FIG. 3

To adjust the period of time delay of the starter, loosen the knurled nut on left side of timing mechanism box (see Fig. 3); move upward for longer time and downward for shorter time, and tighten in place.

*To be filed as an Instruction Leaflet and as Renewal Parts Data; for Renewal Parts Data, see pages 2 and 3.

CLASS 8512—TIMESTARTERS

(For Constant and Adjustable Speed Direct-Current Motors)

RENEWAL PARTS DATA

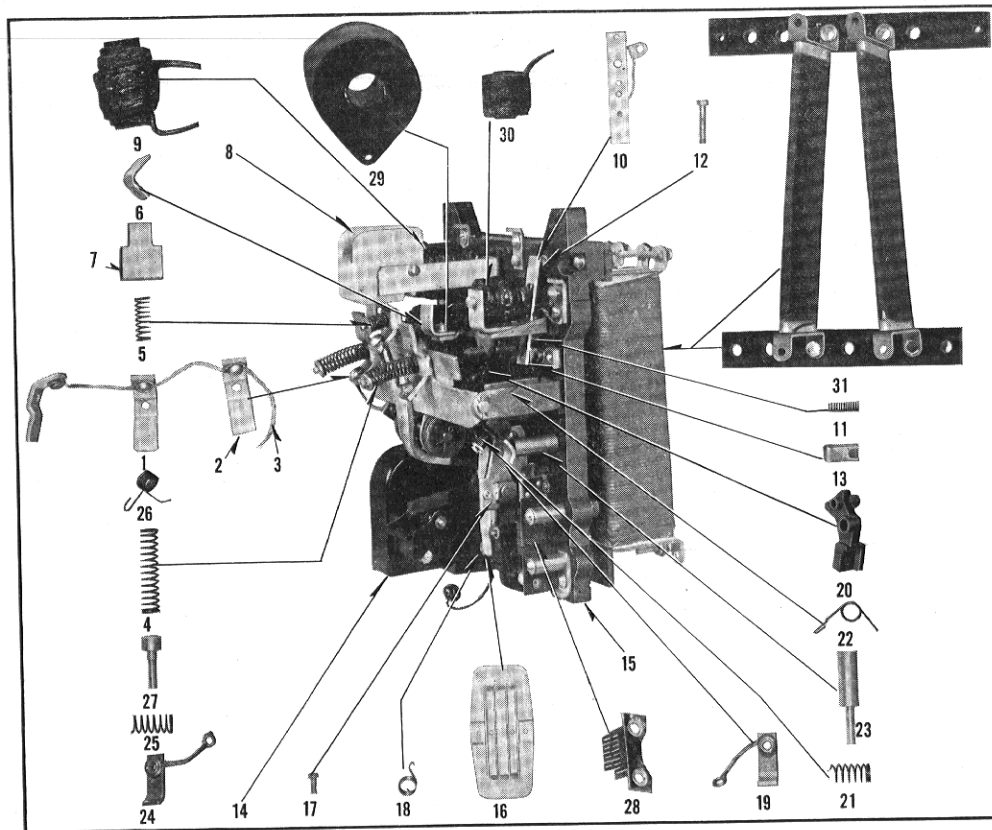


FIG. 4—RENEWAL PARTS FOR TIMESTARTERS

On the following page is a list of the Renewal Parts and the quantities of each that we recommend should be stocked by the user of this apparatus to minimize service interruptions caused by breakdowns. The parts recommended are those most subject to wear in normal operation, or to damage or breakage due to possible abnormal conditions.

This list of Renewal Parts is given only as a guide. When continuous operation is a primary consideration, additional insurance against shutdowns is desirable. Under such conditions, more renewal parts stock should be carried, considering the severity of the service and the time required to secure replacements.

ORDERING INSTRUCTIONS

Name the part and give its style number. Give the complete name plate reading. State whether shipment is desired by express, freight or by parcel post. Send all orders or correspondence to nearest sales office of the company. Small orders should be combined so as to amount to a value of at least one dollar, as order handling and shipping expenses prevent us from billing a smaller amount.

*To be filed as Renewal Parts Data and as an Instruction Leaflet; for Instructions, see page 1.

Westinghouse Electric & Manufacturing Company

East Pittsburgh Works

Printed in U. S. A.

East Pittsburgh, Pa.

CLASS 8512—TIMESTARTERS
(For Constant and Adjustable Speed Direct-Current Motors)

RENEWAL PARTS DATA—Continued
RECOMMENDED STOCK OF RENEWAL PARTS

Time Starter Class Number.....	8512-A	8512-B	8512-C	8512-E†	8512-F
	695 923,A,B,C 695 925,A,B,C 695 926,A,B,C 695 929,A,B,C 695 931,A,B,C 695 934,A,B,C	695 943,A,B,C to 695 956,A,B,C	695 965,A,B,C to 695 978,A,B,C	790 582,A† to 790 595,A†	695 987,A,B,C to 696 000,A,B,C

For Timestarters in use up to and including.....		1	5	Style Number of Part		
Ref. No.	Name of Part	No. Per Starter	Recommended For Stock	Plain Style and Sub A Style	Sub B Style	Sub C Style
+	Armature Complete.....	1	0	0	940 430	940 430
+	Cross Bar and Rack Lever.....	1	0	0	685 184	685 184
+	Bare Armature.....	1	0	0	685 183	790 596
1	Main Moving Contact Complete.....	1	0	0	841 369	841 369
2	Main Moving Contact.....	3	3	6	790 716	790 716
3	Shunt.....	3	1	3	831 518	831 518
4	Contact Spring—Long.....	2	0	1	247 317	247 317
5	Contact Spring—Short.....	1	0	1	322 588	322 588
+	Spring Pin—Long.....	2	0	0	685 179	685 179
+	Spring Pin—Short.....	1	0	0	685 180	685 180
6	Main Stationary Contact—Right and Left Hand.....	2	2	4	548 382	548 382
+	Main Stationary Contact Support.....	2	0	0	594 326	594 326
+	Main Stationary Contact Stud.....	2	0	0	361 703	361 704
7	Main Stationary Contact—Center.....	1	1	2	685 162	685 162
8	Arc Box.....	1	0	1	685 163	685 163
9	Blowout Coil.....	1	0	0	654 166	654 166
+	Armature Shaft.....	1	0	0	662 219	×790 722
+	Armature Shaft.....	2	0	0	663 599	×
+	Armature Spring.....	2	0	1	569 659	569 659
+	Armature Shim.....	1	0	0	790 710	790 710
+	Armature Bracket—Right Hand.....	1	0	0	685 186	685 186
+	Armature Bracket—Left Hand.....	1	0	0	685 185	685 185
+	Lockout Interlock.....	1	0	0	831 516	831 516
10	Moving Contact with Shunt.....	1	1	2	685 177	882 130
+	Push Rod.....	1	0	0	685 174	841 368
11	Moving Contact Spring.....	1	0	1	710 165	710 165
12	Upper Stationary Contact for Lockout Interlock.....	1	1	2	754 388	790 243
13	Lower Stationary Contact for Lockout Interlock.....	1	1	2	790 244	790 244
+	Rack.....	1	0	0	685 159	831 515
+	Rack Spring.....	1	0	1	841 397	841 397
+	Rack Pin.....	1	0	1	685 178	685 178
14	Time Delay Mechanism.....	1	0	0	711 324	711 324
△	Ratchet.....	1	0	0	685 158	828 278
△	Escapement Wheel and Shaft.....	1	0	0	799 784	799 784
△	Escapement Lever and Shaft.....	1	0	0	829 958	831 392
△	Balance Wheel.....	1	0	0	685 150	685 150
△	Balance Wheel Shaft.....	1	0	0	685 156	685 156
△	Wing Nut.....	1	0	0	188 675	188 675
△	Frame.....	1	0	0	685 151	831 390
+	Magnet Frame.....	1	0	0	685 187	790 598
+	Magnet Core.....	1	0	0	685 169	790 597
+	Felt Washer for Coil.....	1	0	0	318 976	318 976
15	Starter Base (8512-A).....	1	0	0	790 242	790 242
+	Starter Base with Overload Relay (8512—B.C.E.F.).....	1	0	0	940 608	940 608
16	Moving Contact (8512—B.C.E.F.).....	1	0	0	541 356	541 356
+	Moving Contact Support (8512—B.C.E.F.).....	1	0	0	597 588	597 588
17	Stationary Contact and Holder (8512—B.C.E.F.).....	1	0	0	548 397	548 397
+	Stationary Contact Support (8512—B.C.E.F.).....	1	0	0	597 589	597 587
+	Latch (8512—B.C.E.F.).....	1	0	0	597 585	597 585
18	Latch Spring (8512—B.C.E.F.).....	1	0	0	597 590	597 590
+	Operating Lever (8512—B.C.E.F.).....	1	0	0	597 586	597 586
+	Calibrating Lever (8512—B.C.E.F.).....	1	0	0	597 584	597 584
+	Thermal Strip (8512—B.C.E.F.).....	1	0	0	760 649	760 649
19	Moving Dynamic Braking Contact (8512—C.F.).....	1	1	2	685 191	685 191
20	Moving Dynamic Braking Arm (8512—C.F.).....	1	0	0	685 200	685 200
21	Contact Spring for Dynamic Braking (8512—C.F.).....	1	0	1	697 580	697 580
22	Spring for Dynamic Braking (8512—C.F.).....	1	0	1	685 199	790 721
23	Stationary Dynamic Braking Contact (8512—C.F.).....	1	1	2	685 198	790 720
24	Moving Full Field Contact (8512—E.F.).....	1	1	2	685 190	685 190
25	Moving Full Field Arm (8512—E.F.).....	1	0	0	685 200	685 200
26	Contact Spring for Full Field (8512—E.F.).....	1	0	1	697 580	697 580
27	Spring for Full Field (8512—E.F.).....	1	0	1	685 201	685 201
28	Stationary Full Field Contact (8512—E.F.).....	1	1	2	685 202	790 601
29	Heater for Overload Relay (8512—B.C.E.F.).....	1	1	2	†	†
29	Operating Coil—115 Volt.....	1	1	1	654 237	776 135
29	Operating Coil—230 Volt.....	1	1	1	654 238	776 133
30	Lockout Coil—115 Volt.....	1	1	1	712 402	712 402
30	Lockout Coil—230 Volt.....	1	1	1	654 169	654 169
31	Resistor.....	†	0	1	*	*

- + Not illustrated. X4 required per starter.
Parts indented are included in the part under which they are indented.
† For Plain Style use Sub B Parts
For Sub A Style use Sub C Parts
† When ordering Heaters specify the ampere rating stamped on old heater, or give Starter Style Number.
* When ordering Resistor give Style Number marked on cross piece or give Starter Style Number.
* Any customer having time delay mechanism with brass ratchet and requiring new parts, should order improved design mechanism Complete S#711324 together with rack S#831515 and rack spring S#841397.
△ When replacements for time delay mechanism are necessary the mechanism should be sent to our works or nearest Service Shop as parts require accurate fitting. These parts may be renewed by customer, but at the risk of improper operation.
* To be filed as Renewal Parts Data and as an Instruction Leaflet; for Instructions, see page 1.