

Aero-Motive Company

W A Woodhead Industries, Inc. Subsidiary

IMPORTANT SAFETY INSTRUCTIONS

Please read this manual carefully and follow its instructions. Improper use or failure to follow these instructions could result in serious injury, death or property damage. Operators should be instructed in the safe and proper use and maintenance of this product. Keep this manual for future reference.

The following safety precautions call attention to potentially dangerous conditions.



DANGER: Immediate hazards which **WILL** result in severe personal injury or death.



WARNING: Hazards or unsafe practices which **COULD** result in severe personal injury or death.



CAUTION: Hazards or unsafe practices which **MAY** result in *minor* personal injury or product or property damage.

SERVICE



WARNING: To prevent personal injury, death or property damage, handle all springs with care if it is necessary to disassemble the spring motor. Use suitable protective gloves for spring handling. Hazards or unsafe practices **COULD** result in severe personal injury or death.

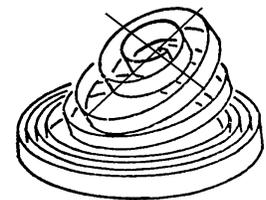
SPRING REPLACEMENT

NOTE: Spring motors contain from 2 to 10 springs. If one spring is broken due to fatigue, it is recommended that all springs be replaced to avoid excessive down time as each of the old springs break.

Remove spring motor from reel, and place it on end with shaft pointing up. Remove six tie bolts which hold the two end plates together. Remove front end plate and cylindrical housing exposing spring and cup assemblies. Remove shaft and fixed hub by pulling upward on shaft.

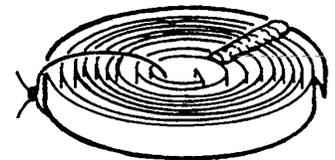


WARNING: To prevent personal injury, death or property damage, hold center of spring in cup as the hub is pulled out. If the center is allowed to rise up, the spring may escape from its container. Hazards or unsafe practices **COULD** result in severe personal injury or death. **DO NOT** remove the spring from its container.



Each spring assembly can now be removed in their cup shaped container. Reverse procedure to reassemble.

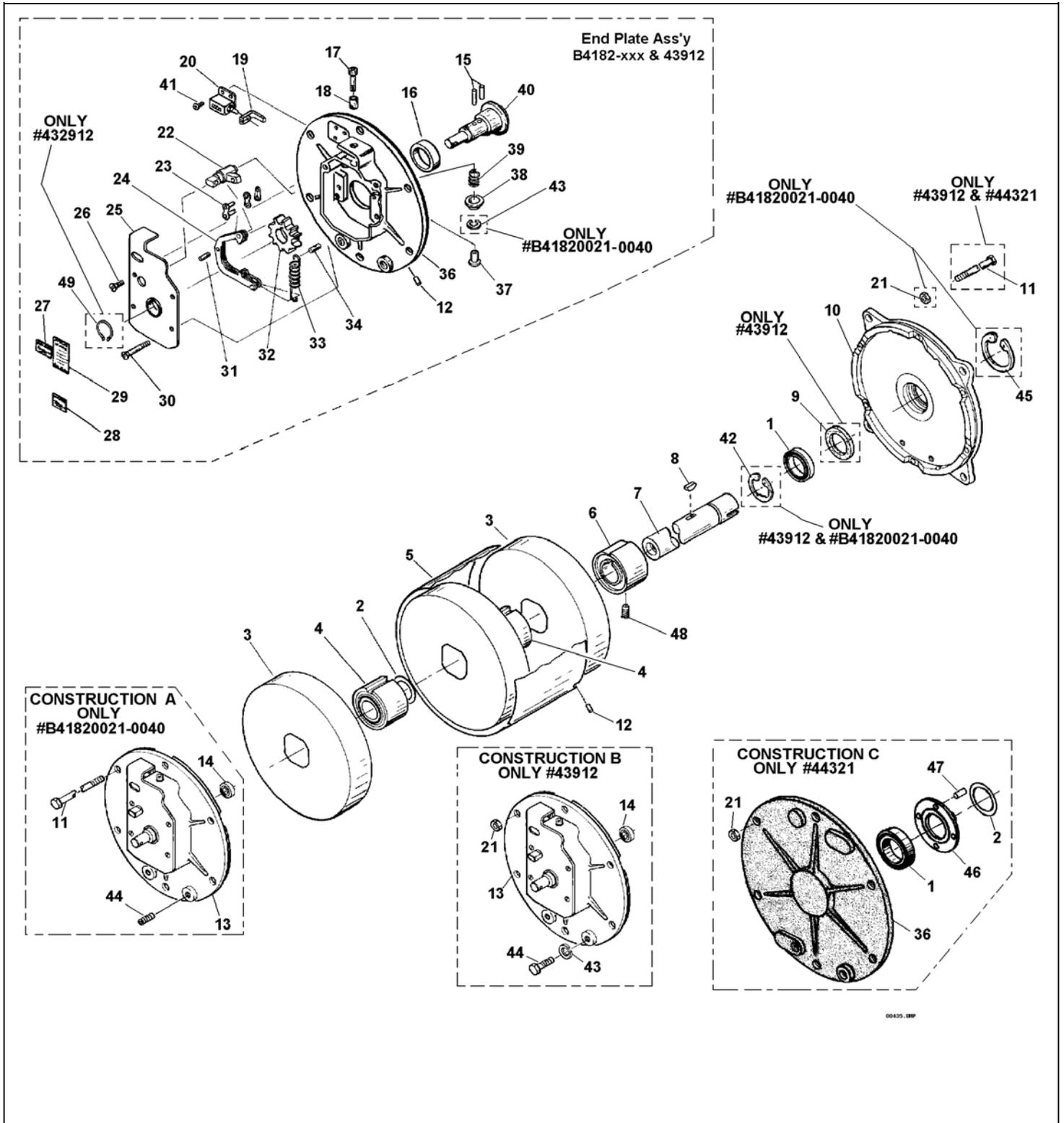
When disposing of old or broken springs, coils should be welded or wired together to prevent possible injury to scrap handling personnel. When replacing spring assemblies make sure square projection, on end of spring hub below, is properly engaged in opening of adjacent spring cup. Refer to parts drawing for part sequence and location.



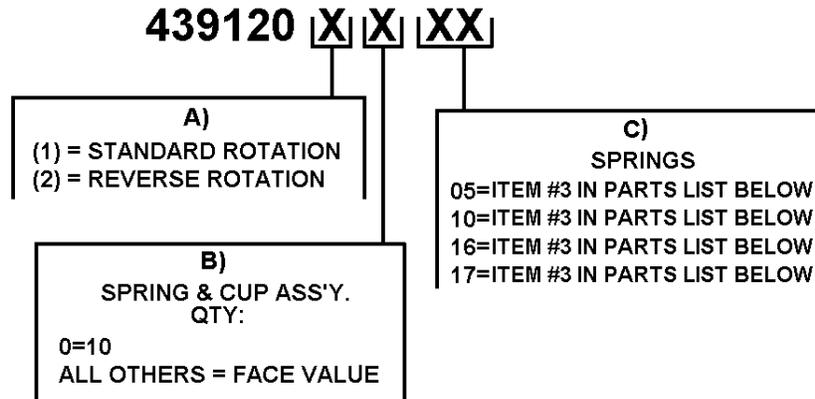
LUBRICATION

Lubrication- Springs and bearings have been sufficiently lubricated at the factory to last for the normal life of the motor. If grease has been removed during maintenance it should be replaced with good quality high-low, temperature grease (Texco AFB 2 or equal). Bearings should be packed, and springs should have enough grease in the cup to thoroughly coat the entire spring as it works in during use.

REPLACEMENT PARTS



UNDERSTANDING PART NUMBERS:



B14820021-40 Part Numbers

	A) Rotation	B) # Springs	C) Type Spring
B14820021-30	Standard	21=10, 23=2, 24=3, 25=4, 26=5, 27=6, 28=7, 29=8, 30=9	05
B14820031-40	Reverse	31=10, 33=2, 34=3, 35=4, 36=5, 37=6, 38=7, 39=8, 40=9	05

Reference Number *	Part Number	Qty.	Description
1	4000500000	1	Bearing (#43912,#44321)
	00376P0075		Bearing (Mill Duty-B41820021-0040)
2	4011900000	AR	Spacer
	4378200105		Assembly; Spring & Cup (Std. Rotation) xxxxx-1x05
	4378200110		Assembly; Spring & Cup (Std. Rotation) xxxxx-1x10
	4378200116		Assembly; Spring & Cup (Std. Rotation) xxxxx-1x16
3	4378200117	AR	Assembly; Spring & Cup (Std. Rotation) xxxxx-1x17
	4378200205		Assembly; Spring & Cup (Reverse Rotation) xxxxx-2x05
	4378200210		Assembly; Spring & Cup (Reverse Rotation) xxxxx-2x10
	4378200216		Assembly; Spring & Cup (Reverse Rotation) xxxxx-2x16
	4378200217		Assembly; Spring & Cup (Reverse Rotation) xxxxx-2x17
4	5974400001	AR	Hub Rotating (Std. Rotation)
	5974400002		Hub Rotating (Reverse Rotation)
	4374500001		Assembly; Band (1 Spring) (#43912-11xx,#B14820021-0040)
	4374500002		Assembly; Band (2 Spring) "
	4374500003		Assembly; Band (3 Spring) "
	4374500004		Assembly; Band (4 Spring) "
5	4374500005	1	Assembly; Band (5 Spring) "
	4374500006		Assembly; Band (6 Spring) "
	4374500007		Assembly; Band (7 Spring) "
	4374500008		Assembly; Band (8 Spring) "
	4374500009		Assembly; Band (9 Spring) "
	4374500010		Assembly; Band (10 Spring) (#43912-11xx,#B14820021-0040)
	4437400002		Assembly; Band (2 Spring) (#44321)
	4437400003		Assembly; Band (3 Spring) "
	4437400004		Assembly; Band (4 Spring) "
	4437400005		Assembly; Band (5 Spring) "
5(cont)	4437400006	1	Assembly; Band (6 Spring) "
	4437400007		Assembly; Band (7 Spring) "
	4437400008		Assembly; Band (8 Spring) "
	4437400009		Assembly; Band (9 Spring) "
	4437400010		Assembly; Band (10 Spring) (#44321)

6	4018500001	1	Hub; Fixed (Std. Rotation)
	4074400001		Hub; Fixed (Reverse Rotation)
7	M24360021	1	Shaft; Main (1 Spring) (#B14820021-0040)
	M24360022		Shaft; Main (2 Spring) “
	M24360023		Shaft; Main (3 Spring) “
	M24360024		Shaft; Main (4 Spring) “
	M24360025		Shaft; Main (5 Spring) “
	M24360026		Shaft; Main (6 Spring) “
	M24360027		Shaft; Main (7 Spring) “
	M24360028		Shaft; Main (8 Spring) “
	M24360029		Shaft; Main (9 Spring) “
	M24360030		Shaft; Main (10 Spring) “(#B14820021-0040)
7(cont.)	4370400001	1	Shaft; Main (1 Spring) (#43912-11xx)
	4370400002		Shaft; Main (2 Spring) “
	4370400003		Shaft; Main (3 Spring) “
	4370400004		Shaft; Main (4 Spring) “
	4370400005		Shaft; Main (5 Spring) “
	4370400006		Shaft; Main (6 Spring) “
	4370400007		Shaft; Main (7 Spring) “
	4370400008		Shaft; Main (8 Spring) “
	4370400009		Shaft; Main (9 Spring) “
	4370400010		Shaft; Main (10 Spring) (#43912-11xx)
7(cont.)	4432200001	1	Shaft; Main (1 Spring) (#44321)
	4432200002		Shaft; Main (2 Spring) “
	4432200003		Shaft; Main (3 Spring) “
	4432200004		Shaft; Main (4 Spring) “
	4432200005		Shaft; Main (5 Spring) “
	4432200006		Shaft; Main (6 Spring) “
	4432200007		Shaft; Main (7 Spring) “
	4432200008		Shaft; Main (8 Spring) “
	4432200009		Shaft; Main (9 Spring) (#44321)
8	00751P0011	1	Woodruff Key (¼- ¾) (#43912, #B14820021-0040, #44321)
9	4082900000	1	Washer; Felt (#43912, #44321)
10	4375900001	1	Plate; Front (#43912, #44321)
	4424100001		Plate; Front (#B14820021-0040)
11	4489400002	6	Bolt; Tie (1 Spring) (#43912, #B14820021-0040)
	4489400013		Bolt; Tie (4 Spring) “
	4489400016		Bolt; Tie (5 Spring) “
	4489400018		Bolt; Tie (6 Spring) “
	4489400020		Bolt; Tie (7 Spring) “
	4489400022		Bolt; Tie (8 Spring) “
	4489400024		Bolt; Tie (9 Spring) “
	4489400026		Bolt; Tie (10 Spring) (#43912, #B14820021-0040)
11(cont.)	4489400004	6	Bolt; Tie (2 Spring) (#43912, #B14820021-0040, #44321)
	4489400008		Bolt; Tie (3 Spring) (#43912, #B14820021-0040, #44321)
	4489400012		Bolt; Tie (4 Spring) (#44321)
	4489400015		Bolt; Tie (5 Spring) “
	4489400017		Bolt; Tie (6 Spring) “
	4489400019		Bolt; Tie (7 Spring) “
	4489400021		Bolt; Tie (8 Spring) “
	4489400023		Bolt; Tie (9 Spring) “
	4489400025		Bolt; Tie (10 Spring) (#44321)
	12		00230P0105
00230P0105		2	Pin; Drive (.094 DIA. x .375 LG) (#44321)
13	5790100000	1	Assembly; End Plate (Std. Rotation) (#43912, #B14820021-0040)
	5972000000		Assembly; End Plate (Reverse Rotation) (#43912, #B14820021-0040)
14	00376P0090	1	Bearing (#43912, #B41820021-0040)
15	5791900000	2	Pin; Dowel

16	4371600000	1	Bearing
17	00029P0126	1	Screw; S.H. (¼-20 x 1¼)
18	5792600000	1	Sleeve Plunger
19	5791800000	1	Assembly; Arm & Counter
20	00979P0006	1	Counter
21	00077P0001	6	Nut; Hex (5/16-18)
22	5793600000	1	Ratchet; Shaft
23	00381P0006	1	Connecting Link
24	5793400000	1	Assembly; Pawl
25	5790900001	1	Assembly; Cover (Standard Rotation)
	5791500001		Assembly; Reverse Cover (Reverse Rotation)
26	00001P0173	2	Screw; Flat HD.
27	5793000000	1	Tension Decal, Decrease
28	5792900000	1	Tension Decal, Increase
29	5792800000	1	Name Plate
30	00001P0174	2	Screw; Flat HD.
31	00227P0093	1	Pin; Dowel (¼ x 1½)
32	5793100000	1	Ratchet Wheel
33	00601P0003	1	Extension; Spring
34	00230P0160	1	Pin; Dowel (.187 DIA. x1.625 LG.)
35	00230P0105	1	Pin (.094 DIA x .375 LG)
36	5791100000		Plate; End (Std. Rotation) (#43912, #B14820021-0040)
	5791400000	1	Plate; End (Reverse Rotation) (#43912, #B14820021-0040)
	4080900001		Plate; End (#44321)
37	5792500000	1	Counter; Plunger
38	5792400000	1	Washer
39	00600P0005	1	Compression Spring
40	5790300000	1	Shaft Rewind
41	00004P0221	4	Screw (#5-40 x ¼)
42	00582P0003	1	Ring; Retaining (#43912, #B14820021-0040)
43	00101P0030	1	Washer; Lock (¼) (#43912, #B14820021-0040)
44	00053P0503	AR	Screw; Set (3/8-16 x 5/8) (#43912, #B14820021-0040)
45	00581P0060	1	Ring; Retaining (#B14820021-0040)
46	4017600000	1	Ring; Drive
47	00230P0122	1	Pin
48	00053P0502	1	Screw; Set (3/8-16) (#44321)
49	00582P0003	1	Ring; Retaining (#44312)

REF: Spring Motor used in service manuals SM3310-01 and SM3510-01.

Aero-Motive Company

W A Woodhead Industries Inc. Subsidiary
 PO Box 2678
 Kalamazoo, MI 49003-2678
 (616) 337 7700
 (800) 999 8559
 FAX: (800) 333 6119
 www.aeromotive.com

AKAPP Electro Industrie

W A Woodhead Industries Inc. Subsidiary
 Nijverheidsweg 14 Box 54
 NL-3771 ME Barneveld
 NL-3771 AB Barneveld
 Holland
 (31) 34 241 4022
 FAX: (31) 34 249 2384
 www.akapp.com

Woodhead Connectivity LTD.

W A Woodhead Industries Inc. Subsidiary
 Factory No. 9
 Rassau Industrial Estate
 Ebbw Vale Gwent NP3 5SD
 United Kingdom
 (0495) 35 0436
 FAX: (0495) 35 0877
 sales@wdhd.co.uk

Woodhead Asia PTE LTD.

W A Woodhead Industries Inc. Subsidiary
 401 Commonwealth Drive #04-04
 Haw Par Technocentre
 Singapore 0314
 (65) 261 6533
 FAX: (65) 479 3588
 sales@wasia.com.sg

Woodhead Canada LTD.

W A Woodhead Industries Inc. Subsidiary
 1090 Brevik Place
 Mississauga Ontario
 L4W 3Y5 Canada
 (905) 624-6518
 FAX: (905) 624-9151
 www.woodhead.ca