

BREAKER SERVICE INC

1080-D Cypress St

LaHabra CA 90631

800-826-5250 office

888-267-7690 fax

Email: sales@BreakerService.com



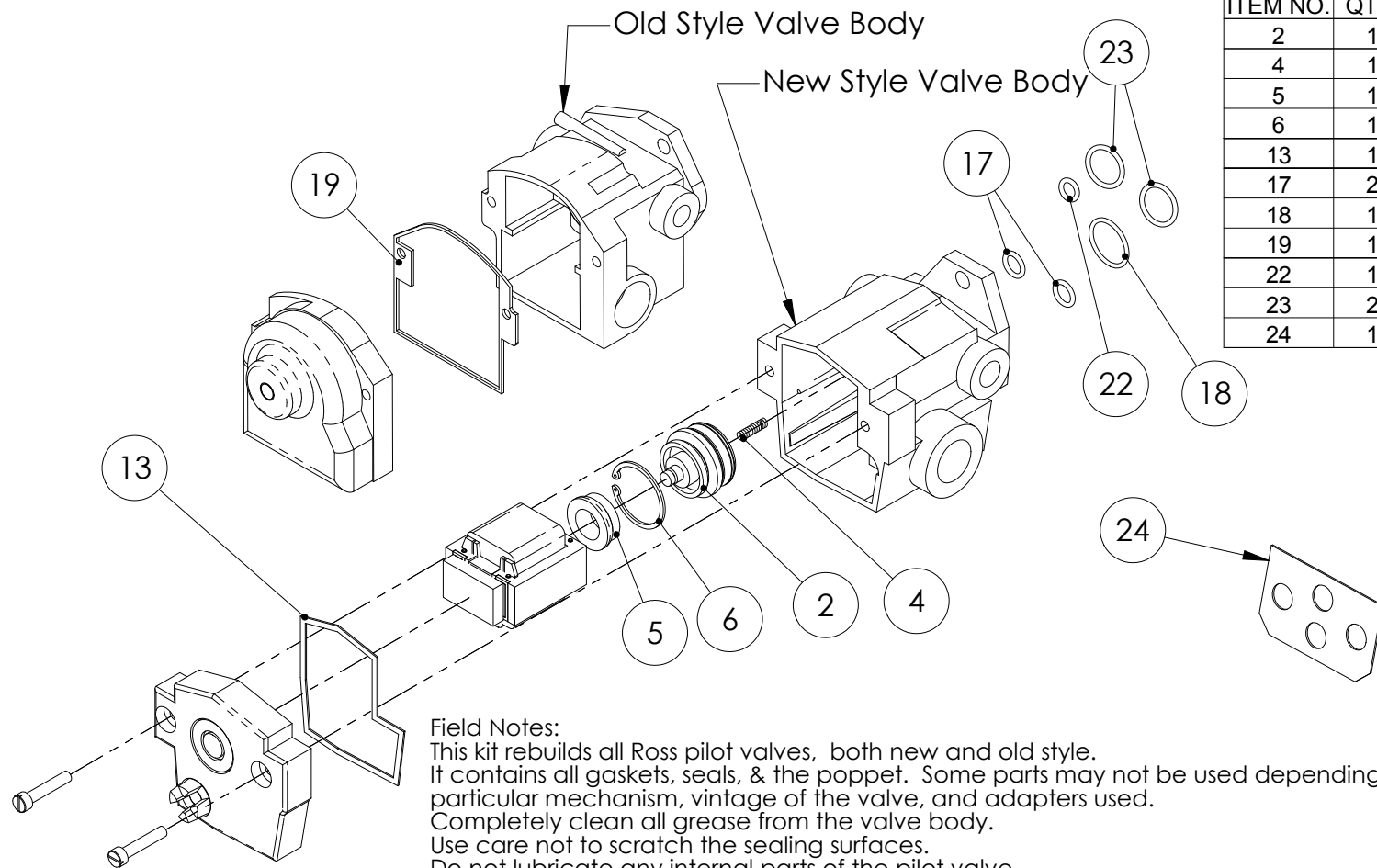
We Specialize in Spare Parts for New & Obsolete
Substation Equipment Including Transformers
& Circuit Breakers

The following pages are only a representative sample of the type of parts that Breaker Service can provide from stock.

We have over 100,000 parts in stock.

Please call with your specific needs.

ITEM NO.	QTY.	DESCRIPTION
2	1	poppet assembly
4	1	spring
5	1	bumper
6	1	retaining ring
13	1	new style cover gasket
17	2	o-ring
18	1	o-ring
19	1	old style cover gasket
22	1	o-ring
23	2	o-ring
24	1	gasket



Field Notes:

This kit rebuilds all Ross pilot valves, both new and old style. It contains all gaskets, seals, & the poppet. Some parts may not be used depending on the particular mechanism, vintage of the valve, and adapters used. Completely clean all grease from the valve body. Use care not to scratch the sealing surfaces. Do not lubricate any internal parts of the pilot valve. There should be only one spring in the pilot valve - it is located under the poppet as shown in the drawing. If the sealing surfaces are scored, then the valve must be replaced.

Time the breaker before (if possible) and after rebuilding the pilot valve.

Use item 23 & 24 for the Westinghouse style main control valve with adapter block.

Use items 17 for Ross main valves with ports 1" & smaller

Use items 18 & 22 for Ross main valves with ports larger than 1"

The internal parts (items 2, 4, 5, & 6) are the same for the old & new style pilot valve bodies, but not illustrated above for the old style valve body.

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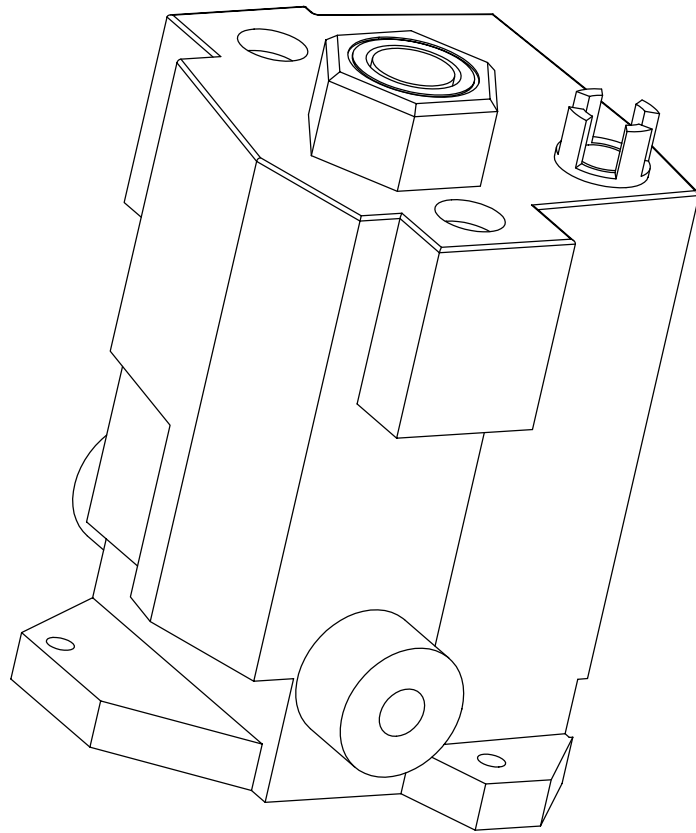
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800-826-5250 office 888-267-7690 fax

Ross pilot valve rebuild kit

SIZE A	DWG. NO. 12274	REV. 6
SCALE: 1:2.5	Date: 09-02-2003	SHEET 1 OF 1



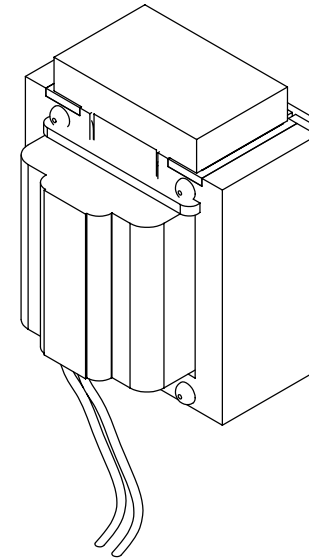
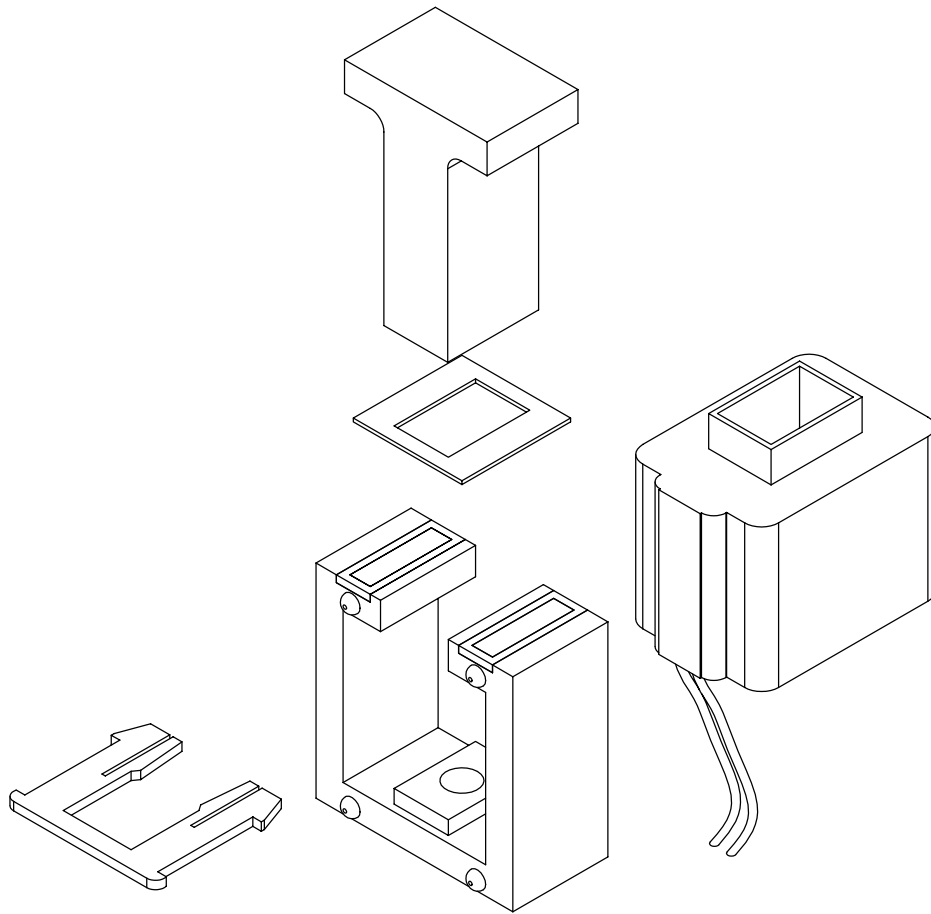
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800-826-5250 office 888-267-7690 fax

Ross Pilot Valve with coil for
125vdc operation

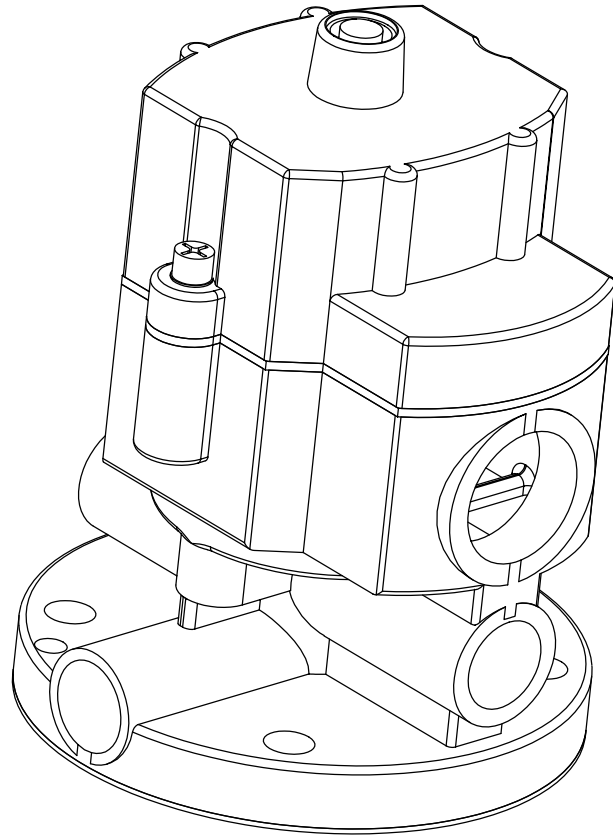
SIZE A	DWG. NO. 37450AMK	REV. 0
SCALE:1:1	Date: 02-02-2002	SHEET 1 OF 1



Replaces Siemens # 4042B01H10
 Replaces Westinghouse # 4042B01H10

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800-826-5250 office 888-267-7690 fax			
Solenoid Assy for Norgren Pilot Valve # D0035C 125vdc			
SIZE A	DWG. NO. 37062AMK	REV. 0	
SCALE:1:1	Date: 02-02-2002	SHEET 1 OF 1	



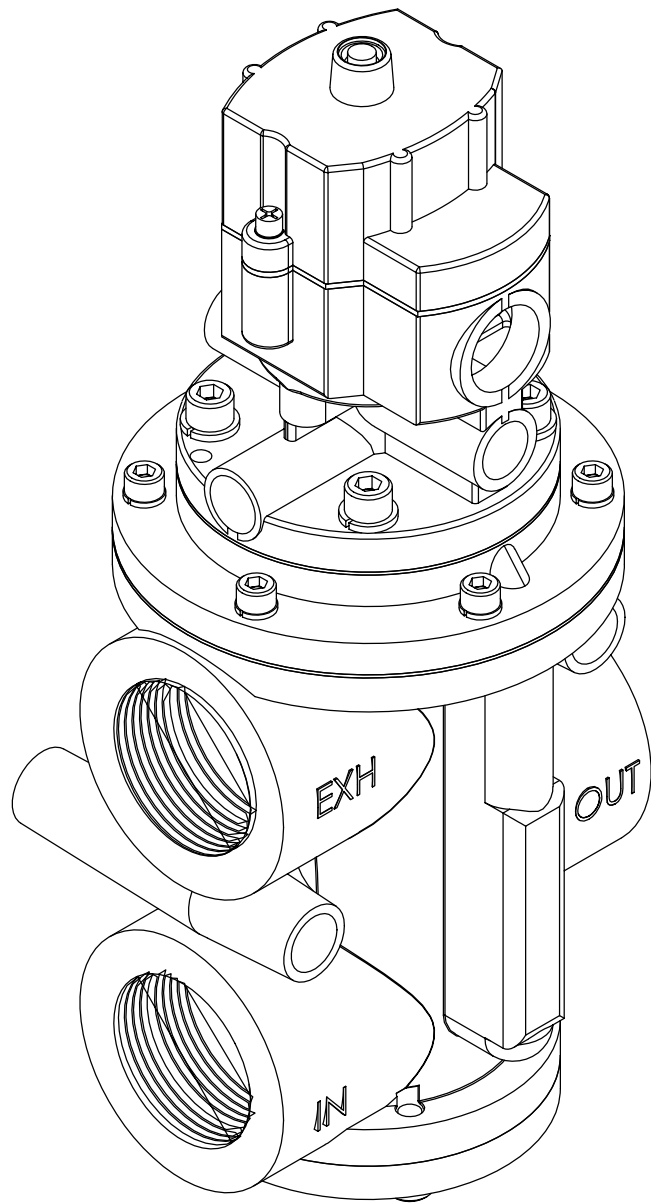
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BREAKER SERVICE INC
800-826-5250 office 888-267-7690 fax

Norgren Pilot Valve with coil for
125vdc operation

SIZE A	DWG. NO. 37562AMK	REV. 0
SCALE:1:1	Date: 02-02-2002	SHEET 1 OF 1



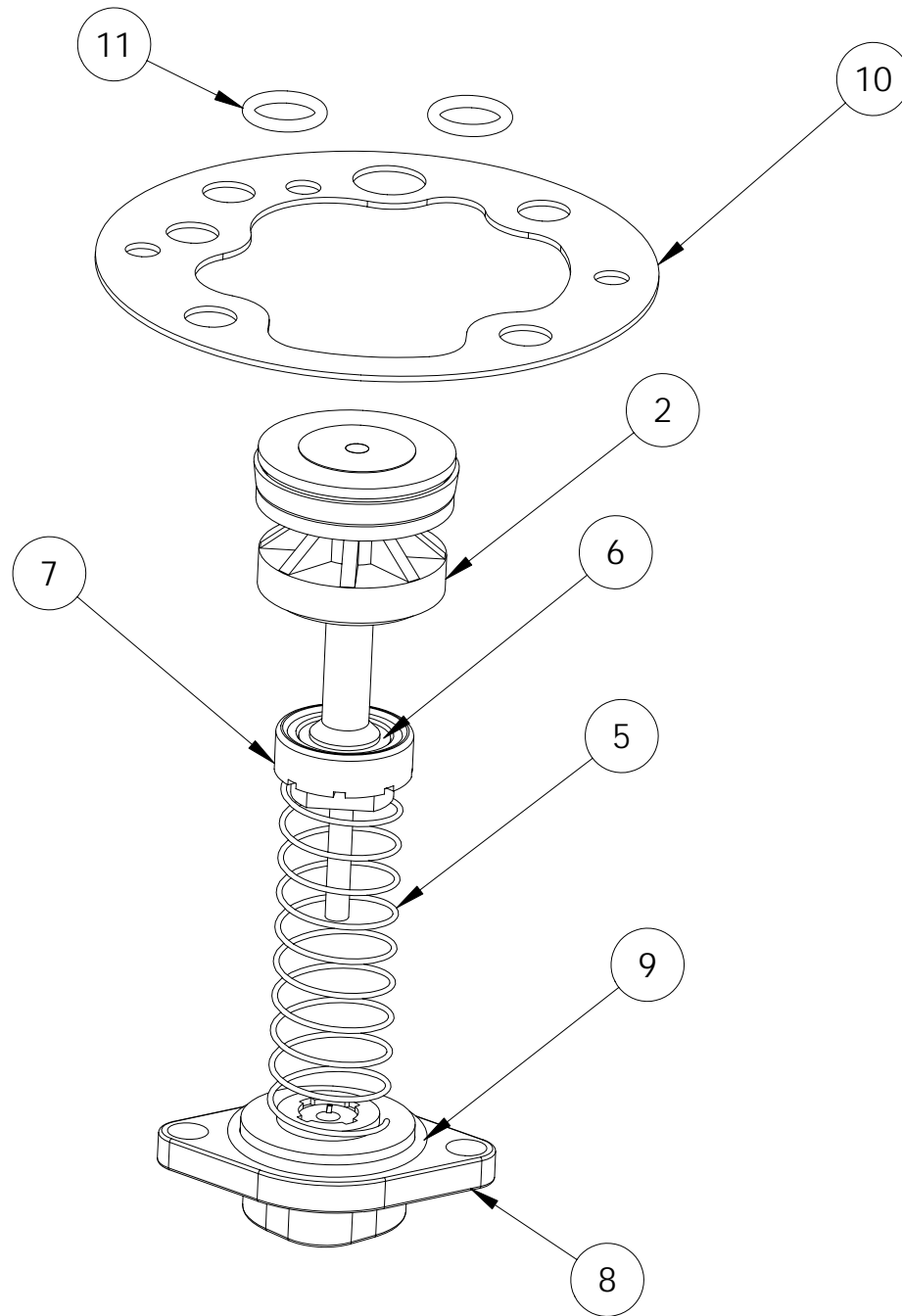
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Norgren pilot & main valve assembly with coil for 125vdc operation. Used in Siemens & Westinghouse type SP breakers

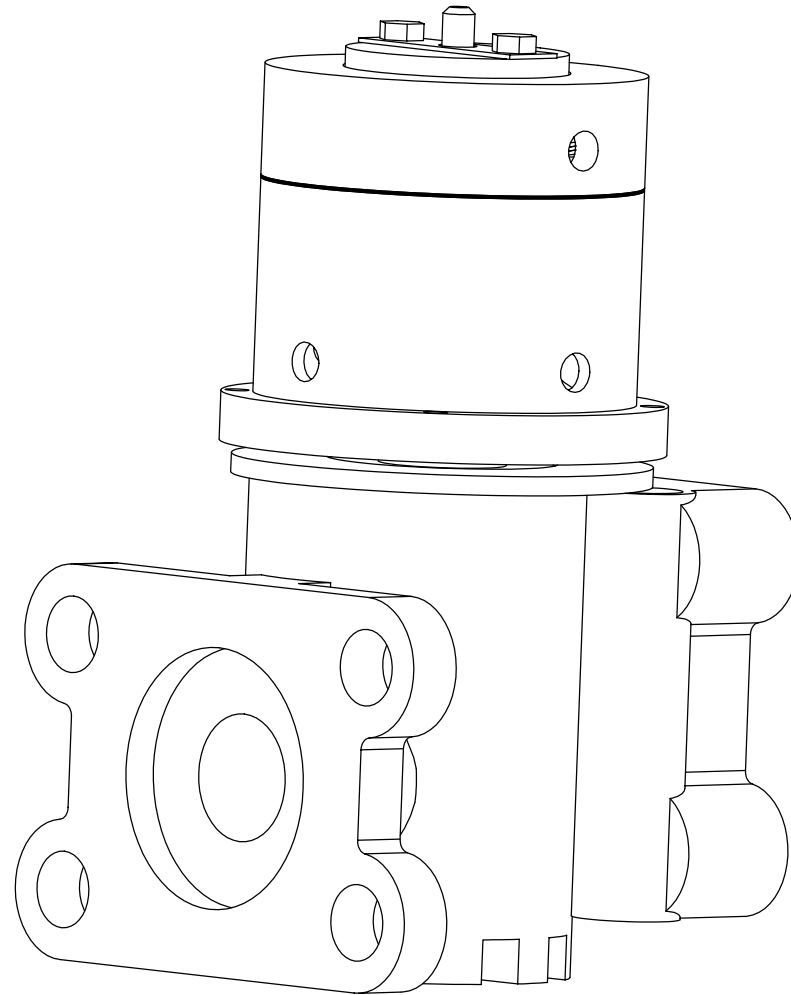
SIZE A	DWG. NO. 37479AMK	REV. 0
SCALE:1:1	Date: 02-02-2002	SHEET 1 OF 1



ITEM NO.	QTY.	DESCRIPTION
2	1	Poppet
5	1	Spring
6	1	Washer
7	1	Lower Seat
8	1	Cap
9	1	O-ring
10	1	Gasket
11	2	Small O-ring

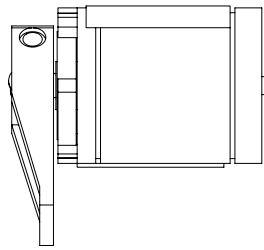
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BREAKER SERVICE INC		
800-826-5250 office 888-267-7690 fax		
Rebuild kit for Ross Main Control Valve with 1/2" ports		
SIZE A	DWG. NO. 37594AMK	REV. 0
SCALE: NTS	Date: 01-15-2003	SHEET 1 OF 1

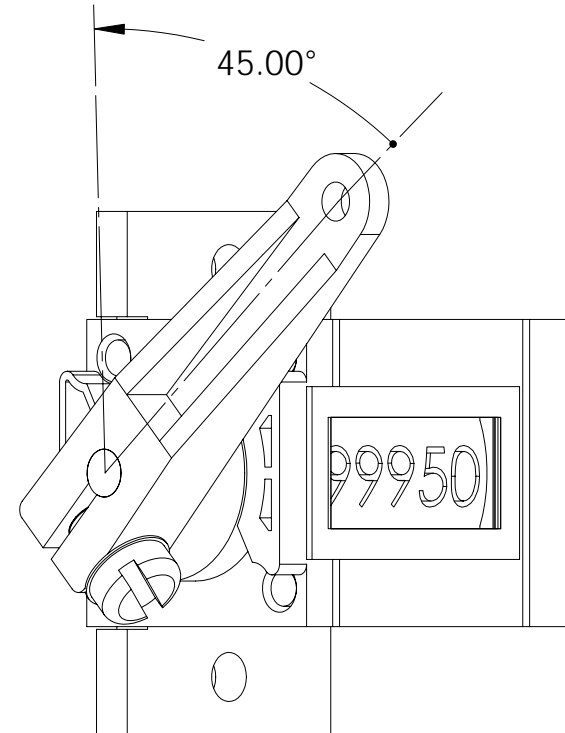
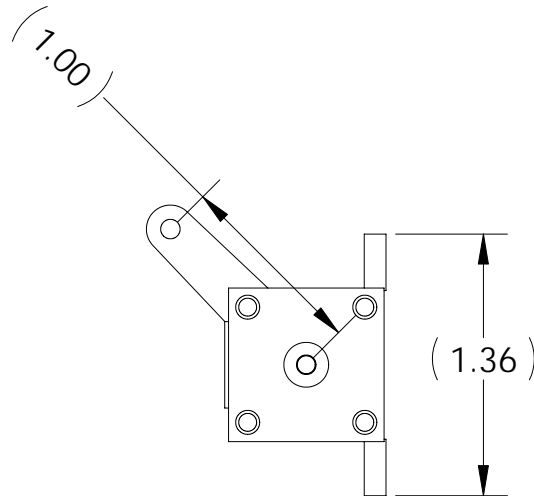
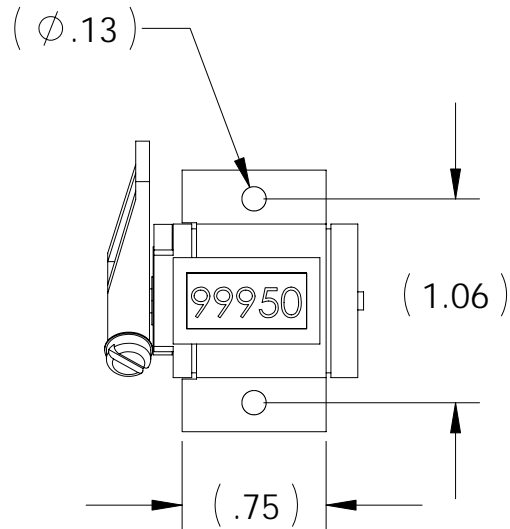


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BREAKER SERVICE INC			
800-826-5250 office 888-267-7690 fax			
MA-14 control valve with a 125vdc 3 winding coil			
SIZE A	DWG. NO. 37440AMK	REV. 0	
SCALE:1:1	Date: 02-02-2002	SHEET 1 OF 1	



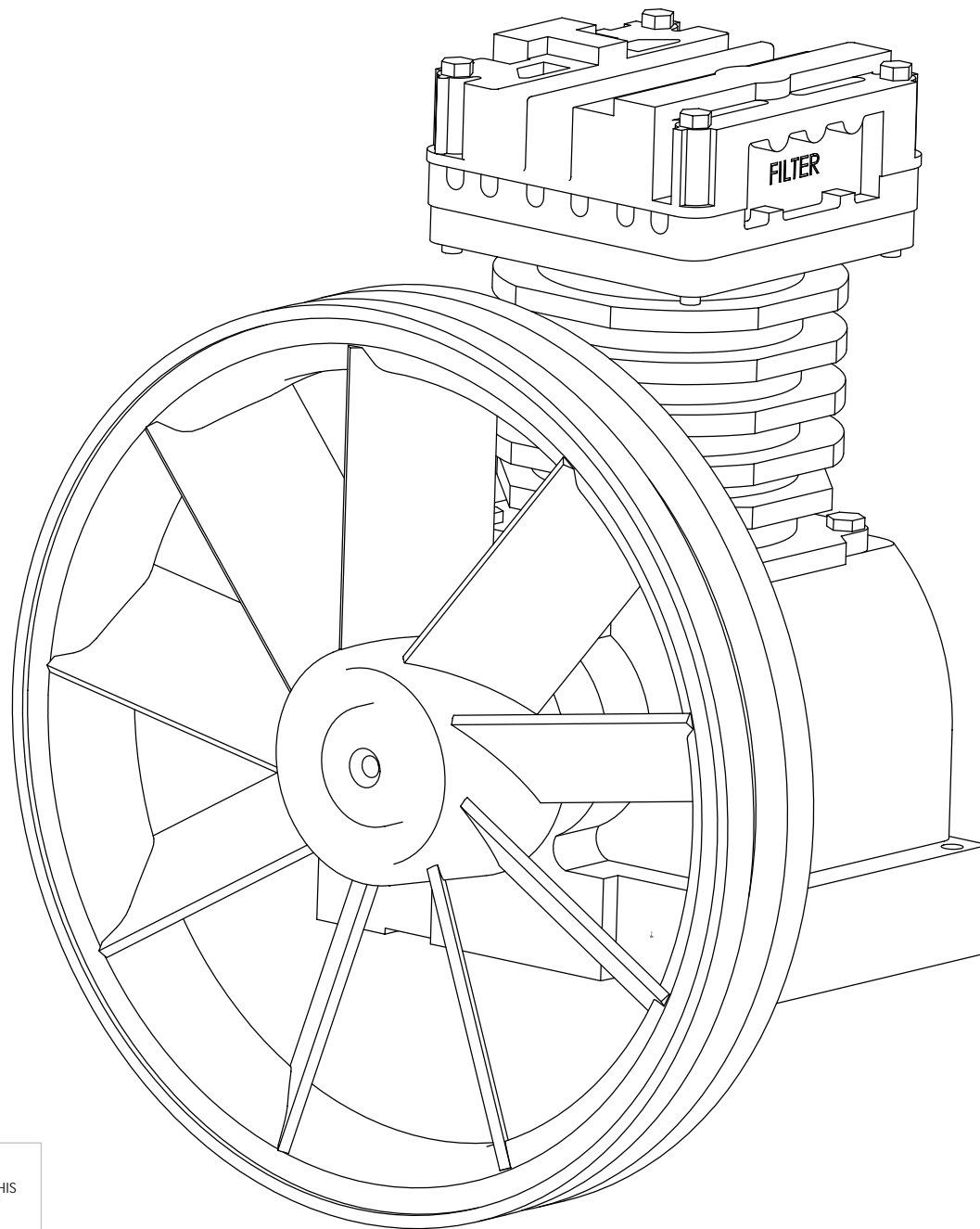
Ratchet action is 45 degrees counter clock wise when looking into the shaft. The lever arm is adjustable 360 degrees.



Replaces many counters including:
 GE# 0138A7031P1 - ATB Breaker
 GE# 0137A0180P6 - ATB Breaker

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BREAKER SERVICE INC			
800-826-5250 office 888-267-7690 fax			
Operations counter for circuit breakers			
SIZE A	DWG. NO. 37728AMK	REV. 0	
SCALE 2:1	Date: 02-02-2003	SHEET 1 OF 1	



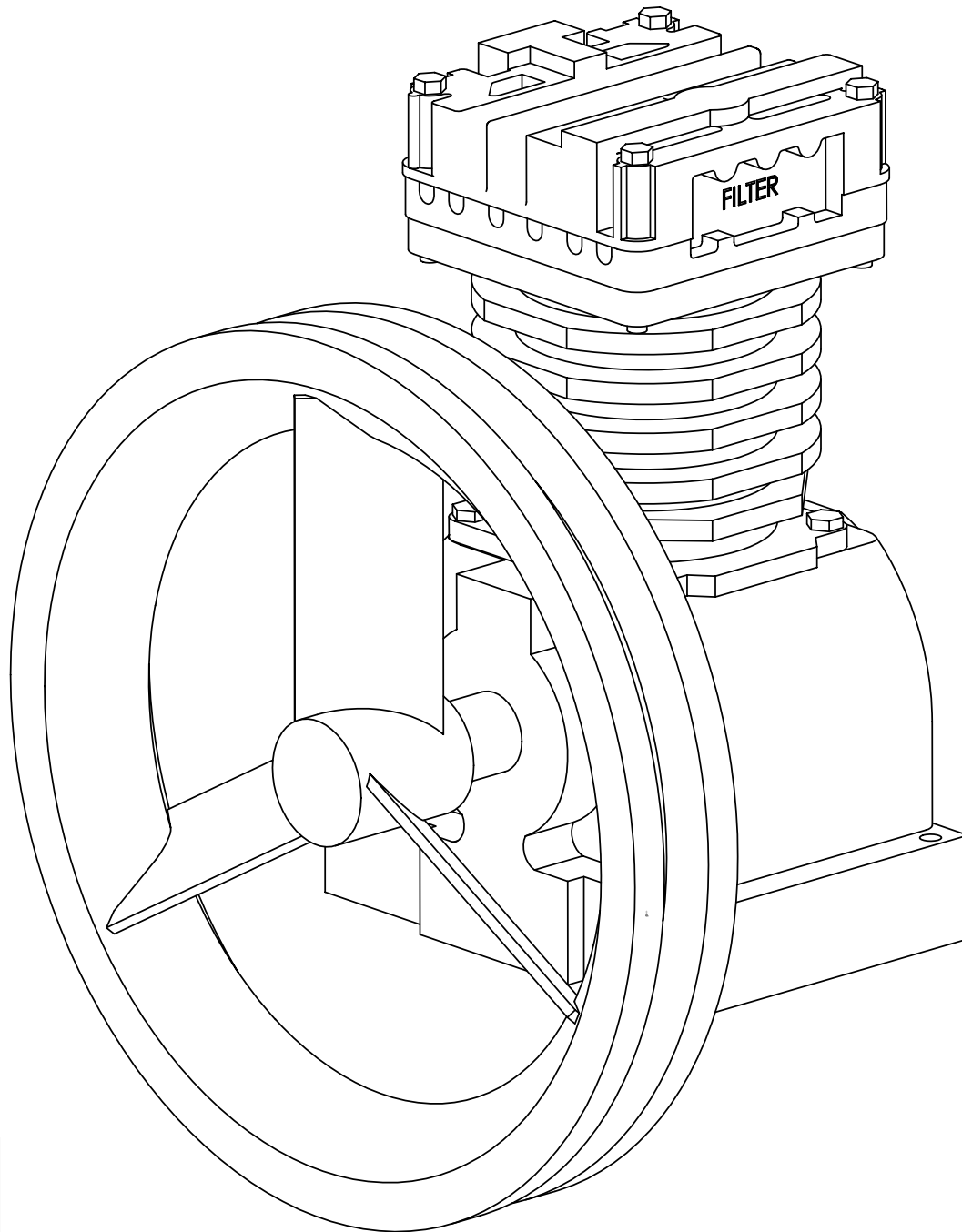
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Compressor
Replaces BLUE Emglo FW-60

SIZE A	DWG. NO. 37287AMK	REV. 0
SCALE:1:1	Date: 02-02-2002	SHEET 1 OF 1

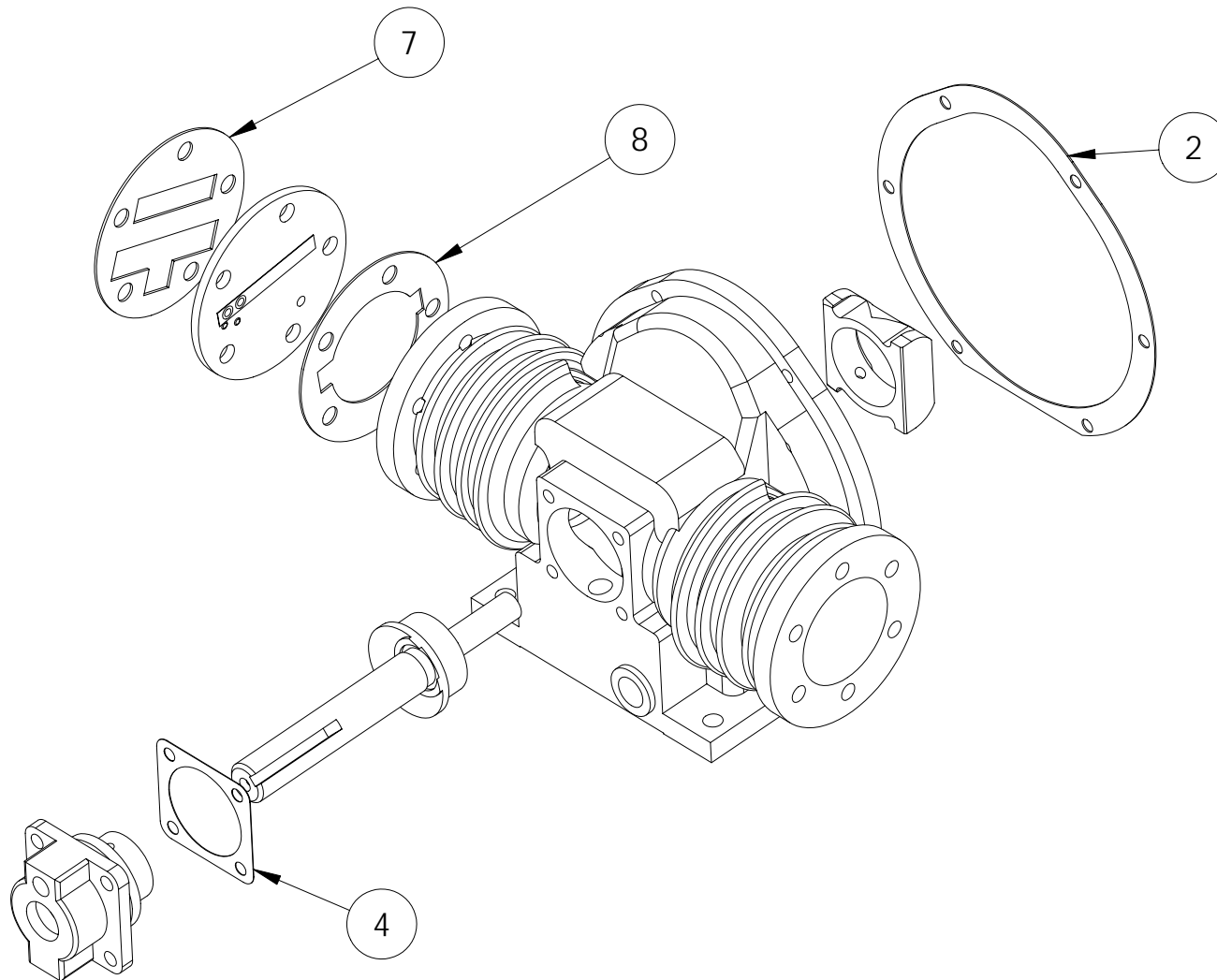


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Compressor Replaces RED Emglo FW-20			
SIZE A	DWG. NO.	37289AMK	REV. 0
SCALE:1:1	Date:	02-02-2002	SHEET 1 OF 1

ITEM NO.	QTY.	PART NO.	DESCRIPTION
2	1	37669AMK	Gasket, oil cover
4	1	37670AMK	Gasket, main bearing
7	2	37671AMK	Gasket, cylinder head, outside
8	2	37672AMK	Gasket, cylinder head, inside



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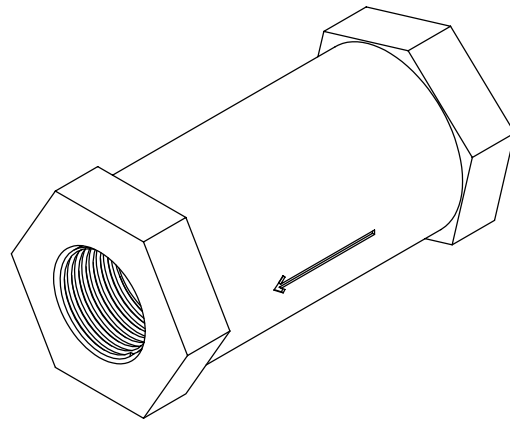
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Gasket kit for Keystone Model D
air compressor

SIZE A	DWG. NO. 37673AMK	REV. 0
SCALE 1:3	Date: 02-02-2003	SHEET 1 OF 1



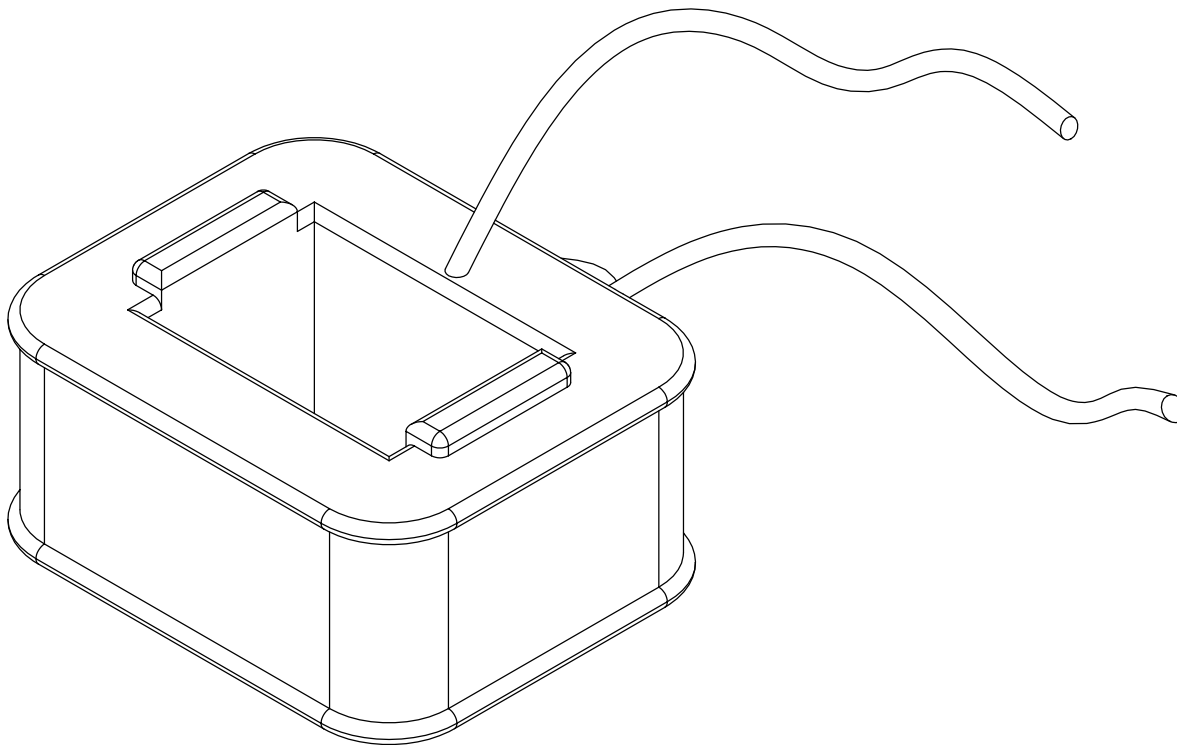
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Kit to replace air receiver
input check valve on all GE
MA-19 mechanisms
Replaces GE part # 6300489P12

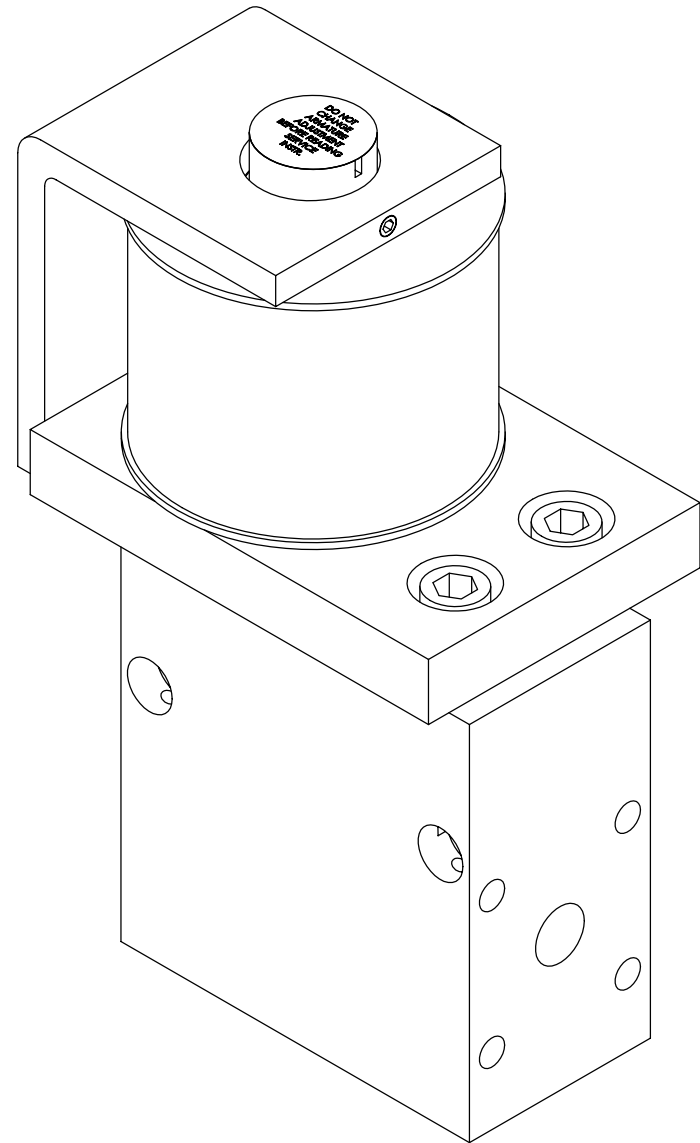
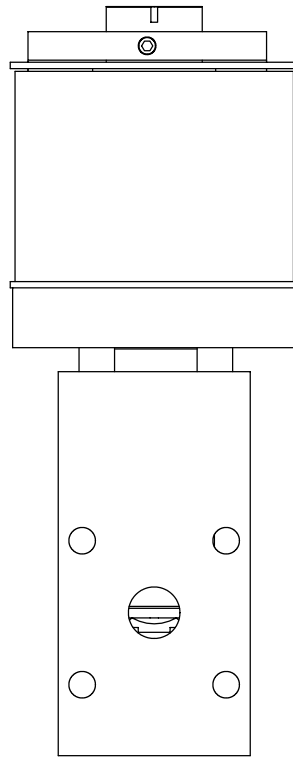
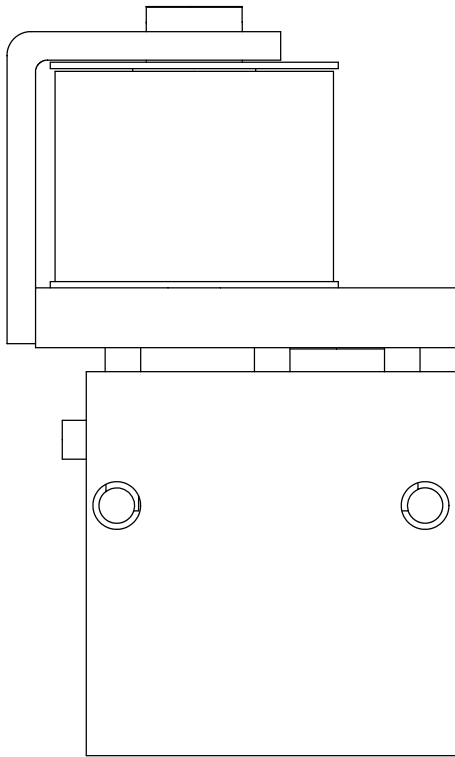
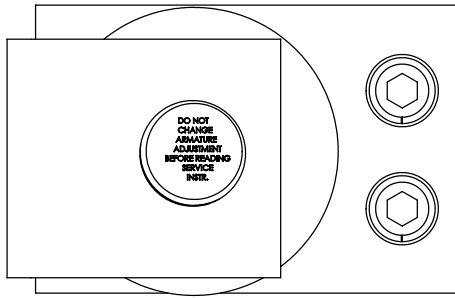
SIZE A	DWG. NO. 37292AMK	REV. 0
SCALE:1:1	Date: 05-02-2002	SHEET 1 OF 1



Replaces Westinghouse # 1616101

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BREAKER SERVICE INC 800-826-5250 office 888-267-7690 fax			
Coil, trip for SA-7, AA-7, and other breaker mechanisms. 125vdc			
SIZE A	DWG. NO. 37460AMK	REV. 0	
SCALE:1:2	Date: 02-02-2002	SHEET 1 OF 1	



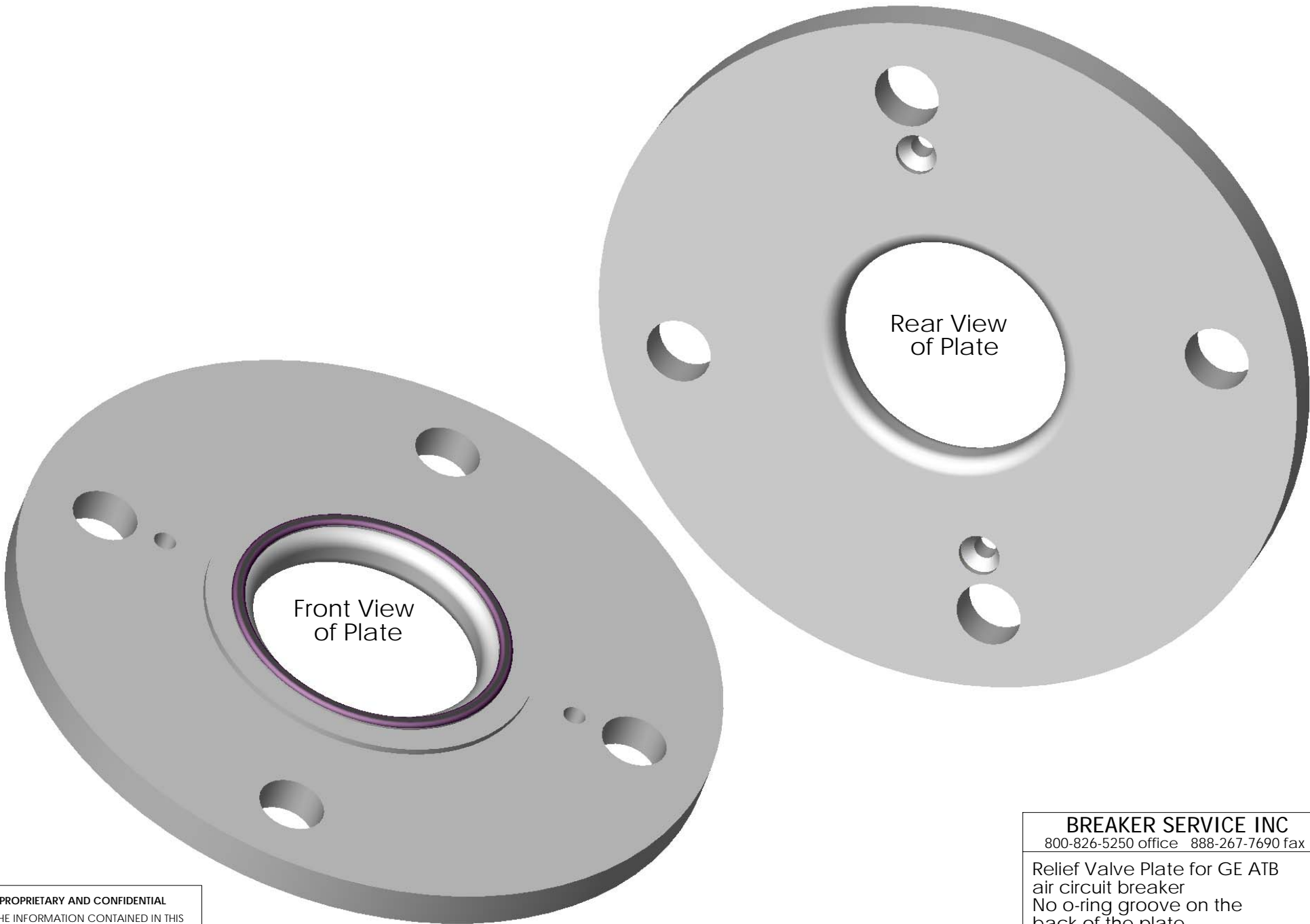
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BREAKER SERVICE INC
800-826-5250 office 888-267-7690 fax

Solenoid Air Regulator for GE
ATB circuit breakers 125vdc coil

SIZE A	DWG. NO. 37241AMK	REV. 0
SCALE:1:4	Date: 02-02-2002	SHEET 1 OF 1



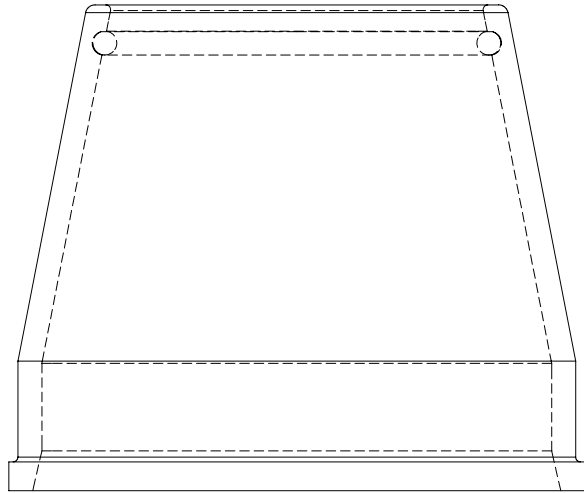
Front View
of Plate

Rear View
of Plate

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BREAKER SERVICE INC			
800-826-5250 office 888-267-7690 fax			
Relief Valve Plate for GE ATB air circuit breaker No o-ring groove on the back of the plate No scallop cutouts on the O.D.			
SIZE A	DWG. NO. 12226RX	REV. 0	
SCALE: NTS	Date: 01-15-2003	SHEET 1 OF 1	

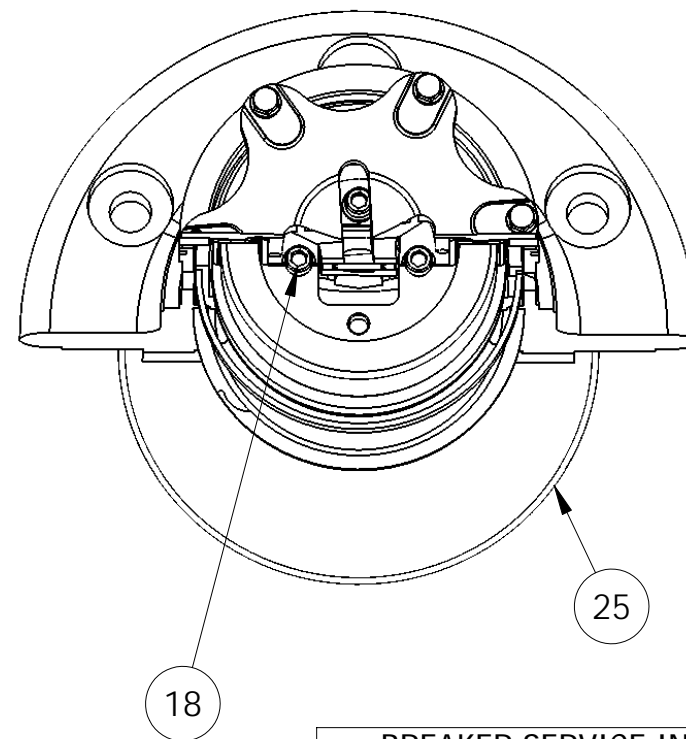
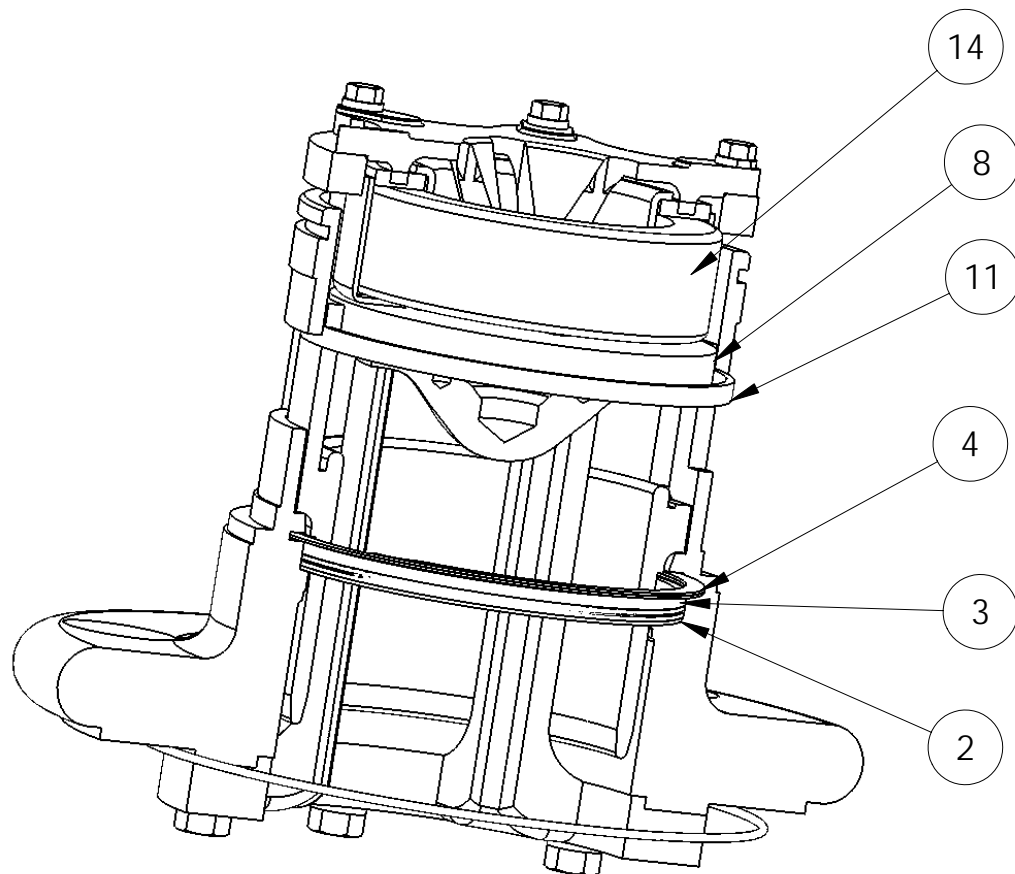


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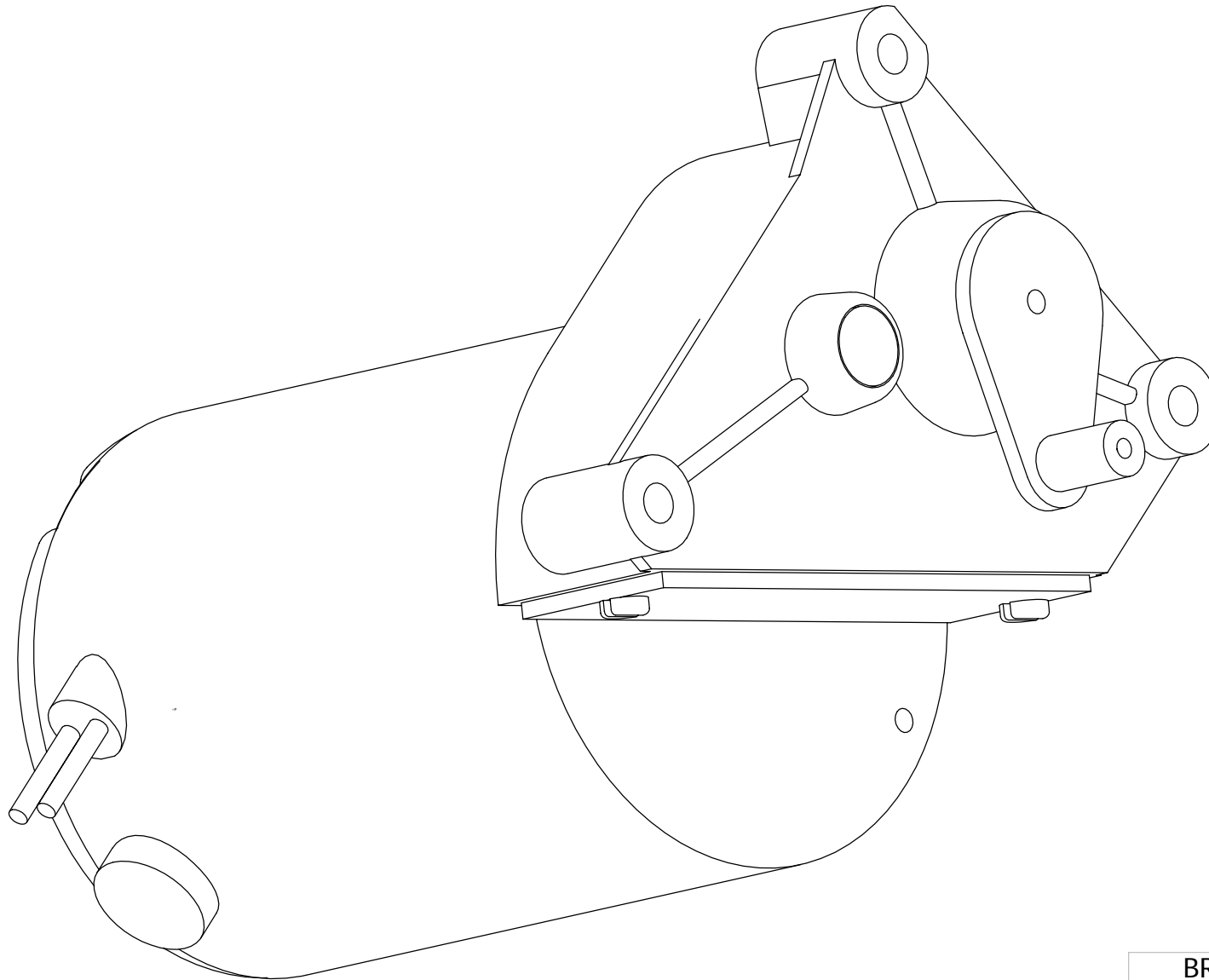
BREAKER SERVICE INC			
800-826-5250 office 888-267-7690 fax			
Teflon orifice for Westinghouse type SFA circuit breakers			
SIZE A	DWG. NO. 30896	REV. 0	
SCALE:1:2	Date: 02-02-2002	SHEET 1 OF 1	

ITEM NO.	QTY.	PART NO.	DESCRIPTION
2	1	33025	OMNISEAL 172C106H25
3	1	30496	BACKUP RING 512A964H01
4	1	30497	SPIROLOX RING 512A617H03
8	1	K12235	SEAT 518B238G02
11	1	30494	TEFLON GUIDE RING 512A419H01
14	1	30491	BUMPER 518B216H01
18	4	31144	NYLOC MTG SCREW FOR VALVE SEAT 512A133H01
25	1	22723	H.P. RESERVOIR O RING 1118C90H68 REPLACES 512A068H18



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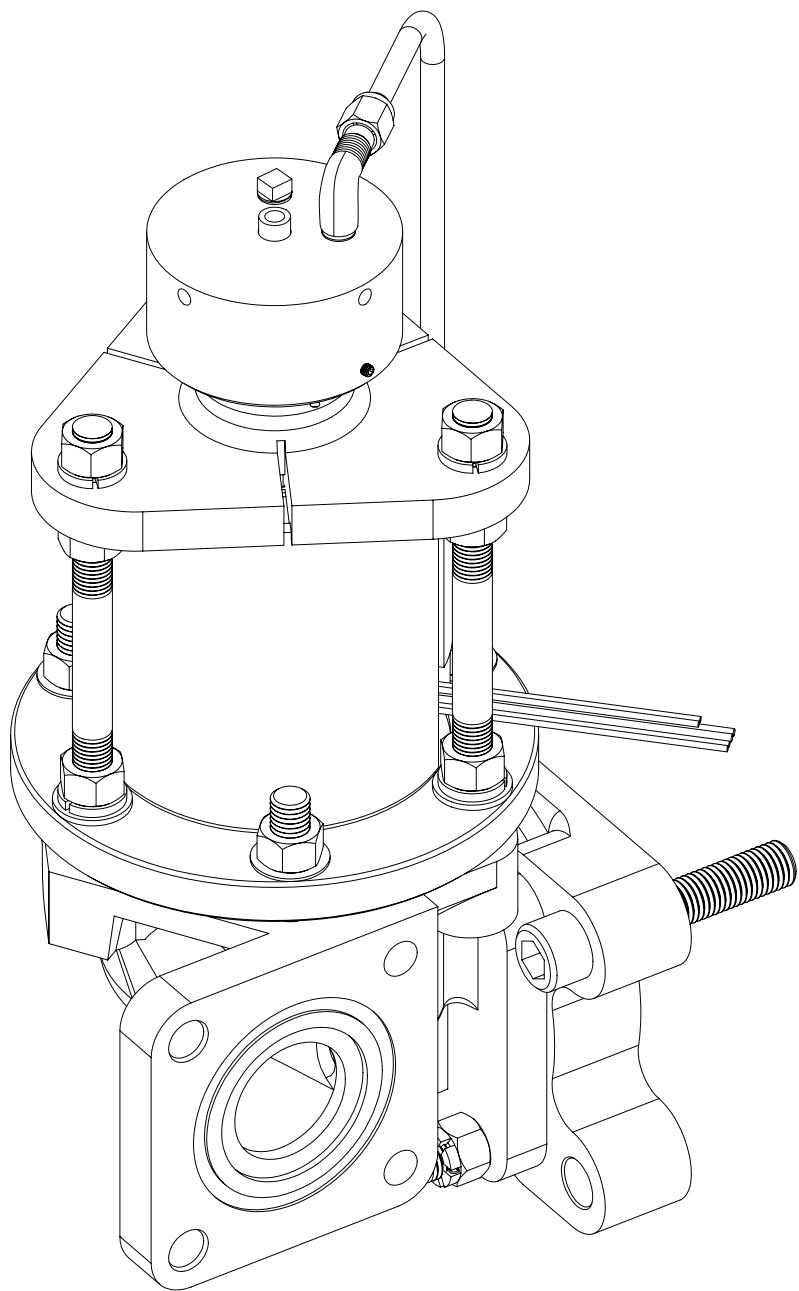
BREAKER SERVICE INC		
800-826-5250 office 888-267-7690 fax		
SFA blast valve rebuild kit One kit required for each valve		
SIZE A	DWG. NO. 37745AMK	REV. 0
SCALE : NTS	Date: 06-11-2003	SHEET 1 OF 1



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BREAKER SERVICE INC			
800-826-5250 office 888-267-7690 fax			
Motor, spring charge, for ITE 15HK ACB, 120V ac or dc			
SIZE	DWG. NO.		REV.
A	37199AMK		0
SCALE: NTS	Date: 08-09-2002	SHEET 1 OF 1	



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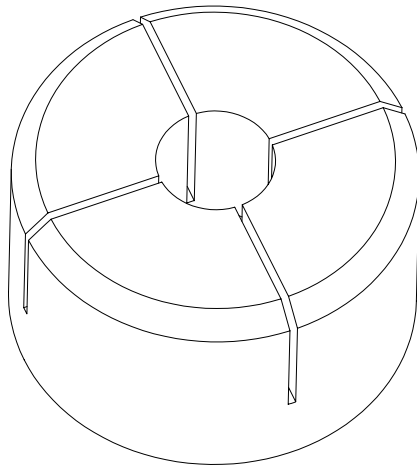
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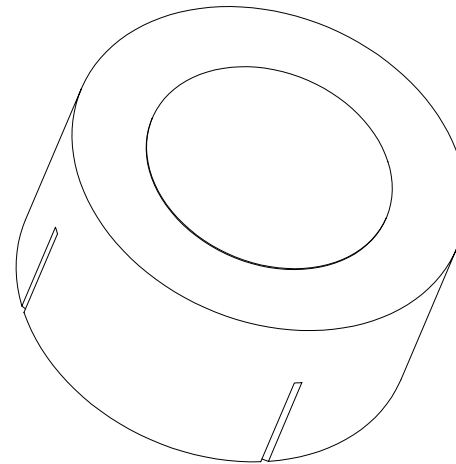
800-826-5250 office 888-267-7690 fax

Main control valve for GE
MA-19 pneumatic circuit
breaker operating mechanism
with coil # 63755200-4, 125vdc

SIZE A	DWG. NO. 37661AMK	REV. 0
SCALE 1:3	Date: 02-02-2003	SHEET 1 OF 1



Top View



Bottom View

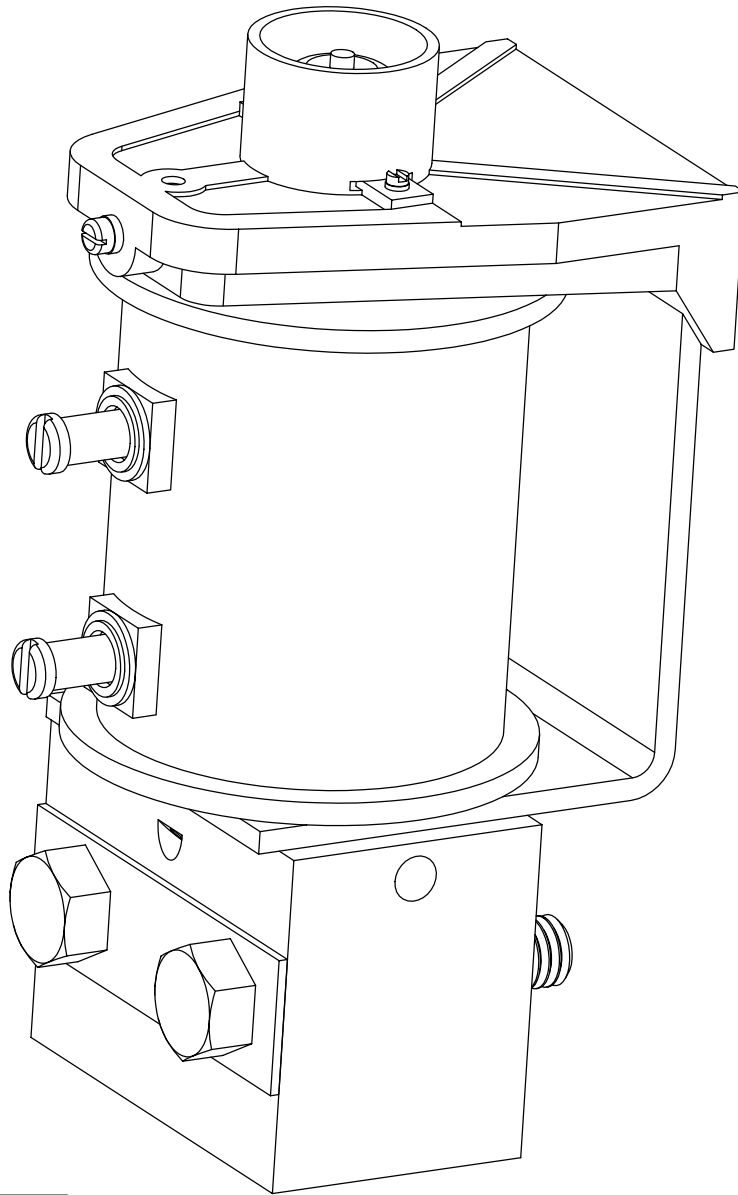
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Pilot armature for all GE MA-19
main & aux control valves
GE cat # 6476201G1

SIZE A	DWG. NO. 30817	REV. 0
SCALE 1:1	Date: 02-02-2003	SHEET 1 OF 1



Complete valve is Westinghouse
part#
1615 522 or
1258 291

125vdc coil is Westinghouse part #
1240 719
Call Breaker Service for a replacement coil or valve

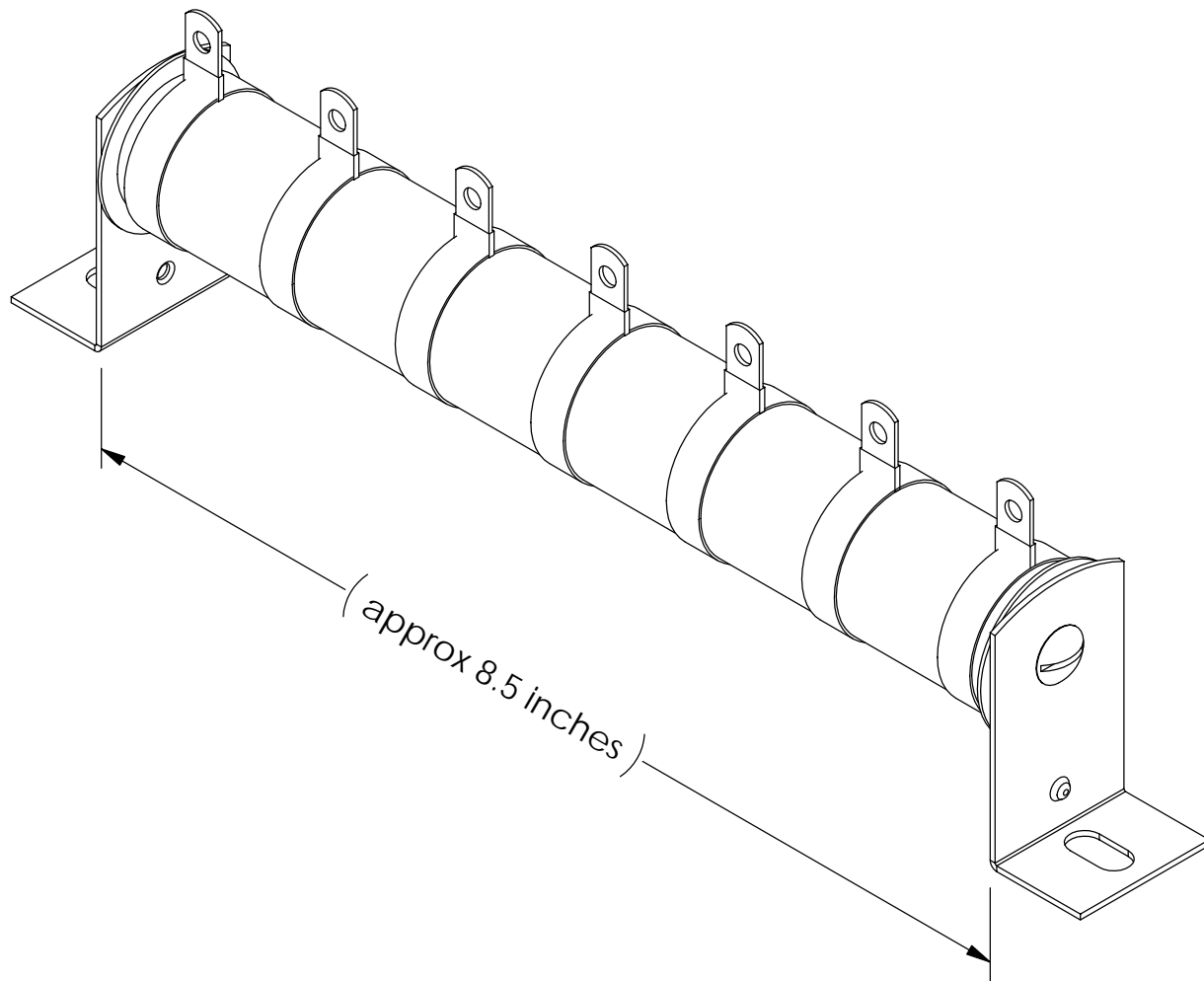
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Westinghouse "Magnet Valve"
pilot valve. Obsolete, however
coil is still available.

SIZE A	DWG. NO. 37280AMK	REV. 0
SCALE: NTS	Date: 08-09-2002	SHEET 1 OF 1



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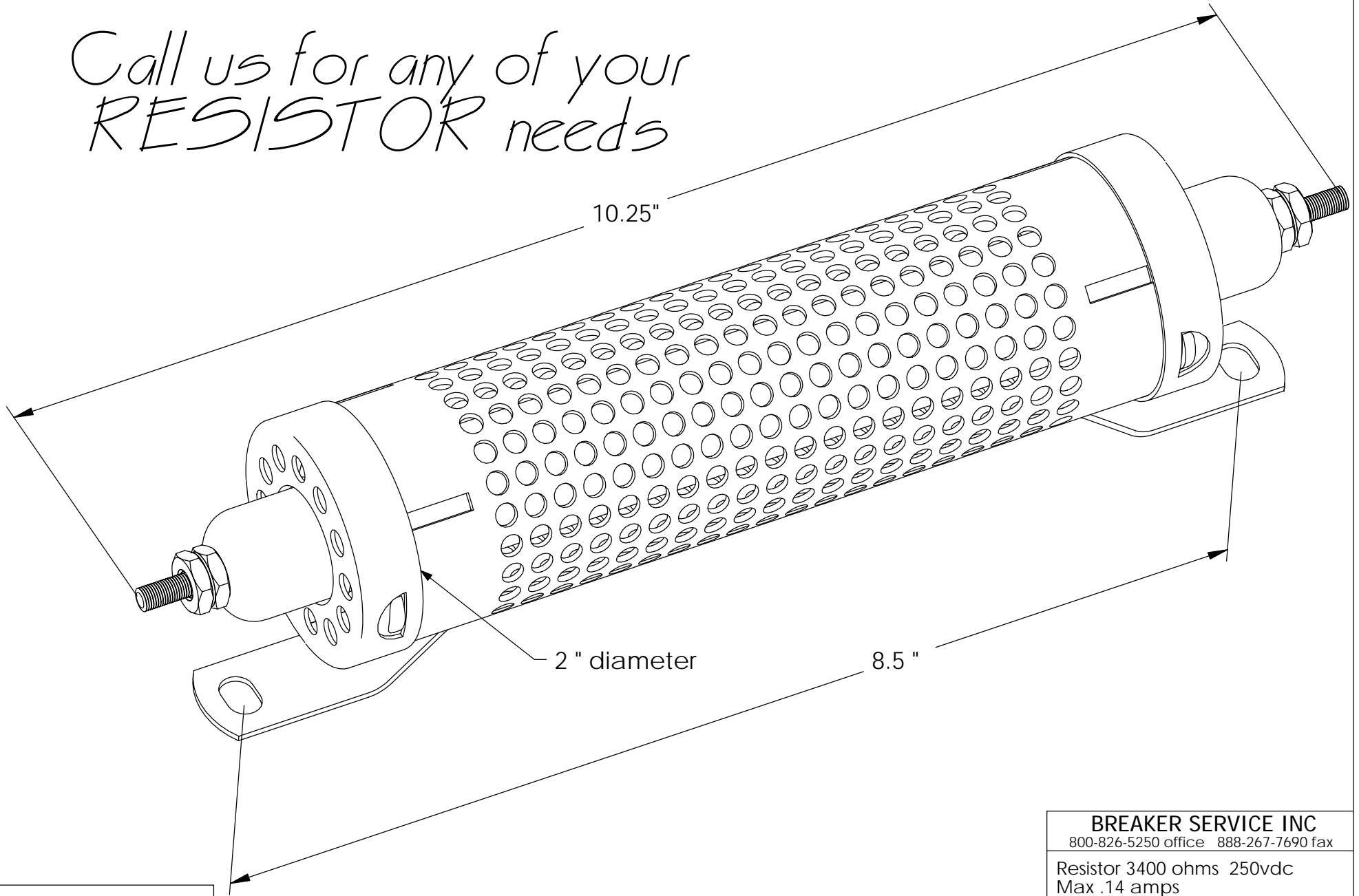
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Resistor, multi tap, from 5 to 10 ohms by 1 ohm increments. Used in various Fed Pacific, McGraw Edison, & Cooper circuit breaker mechanisms

SIZE A	DWG. NO. 37626AMK	REV. 0
SCALE: NTS	Date: 01-06-2003	SHEET 1 OF 1

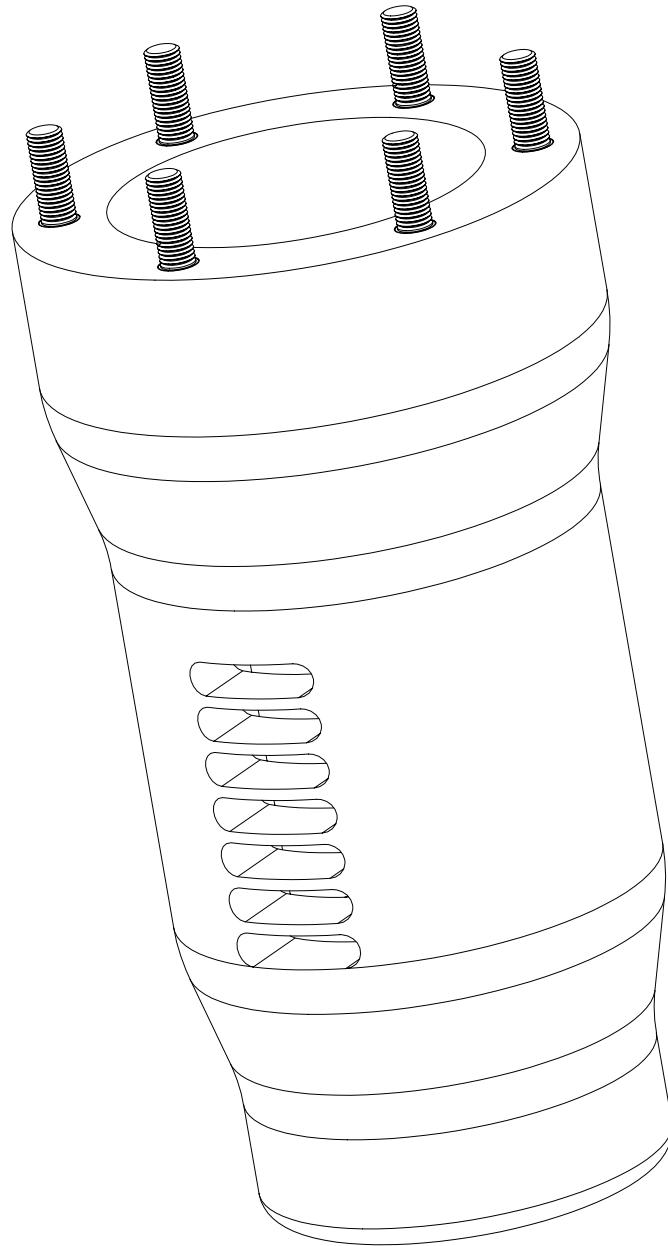
Call us for any of your
RESISTOR needs



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All dimensions are approximate

BREAKER SERVICE INC			
800-826-5250 office 888-267-7690 fax			
Resistor 3400 ohms 250vdc Max .14 amps Replaces GE# 101A3400			
SIZE A	DWG. NO. 37481AMK	REV. 0	
SCALE 1:1	Date: 08-09-2002	SHEET 1 OF 1	



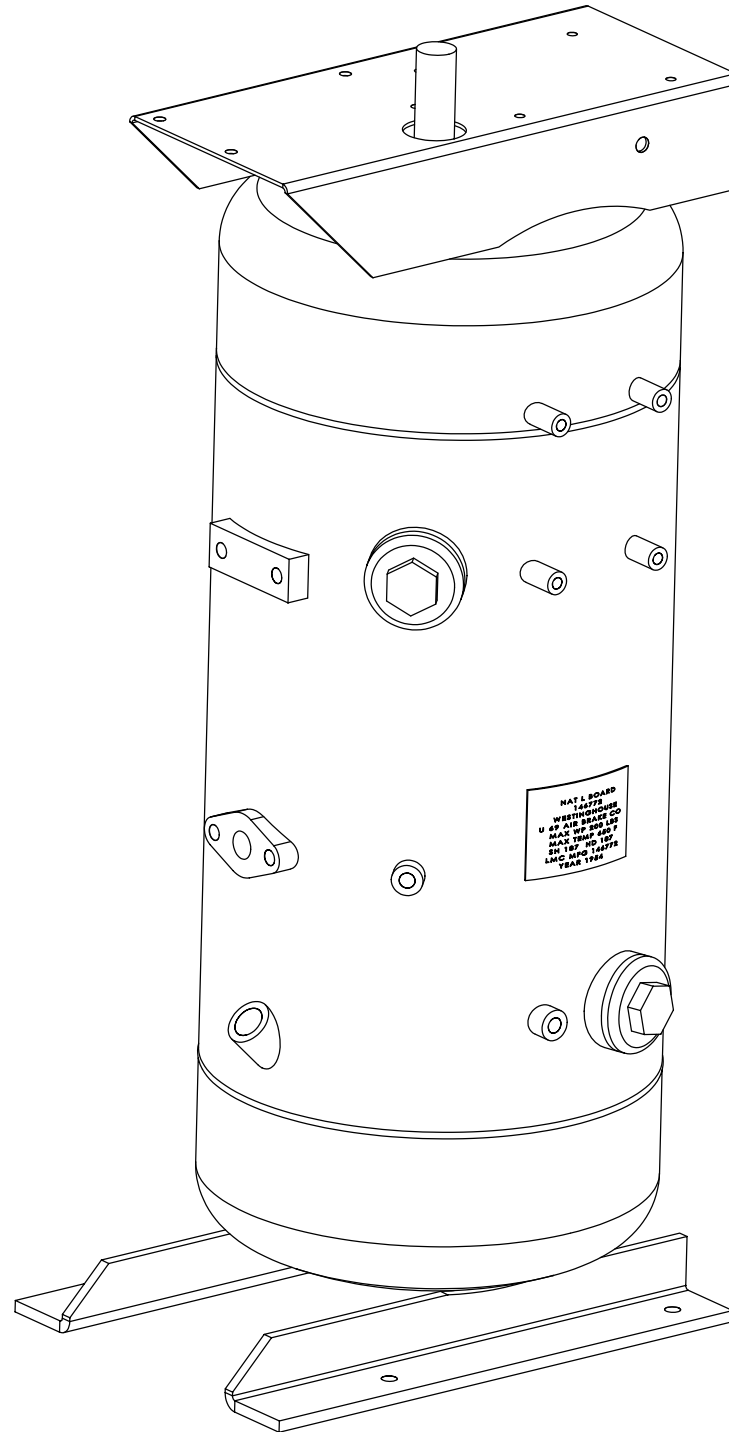
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800-826-5250 office 888-267-7690 fax

Interrupter Tube
For ITE 69kV type KSB
oil circuit breaker
ITE part # 952C215-01

SIZE A	DWG. NO. 37504AMK	REV. 0
SCALE 1:4	Date: 02-02-2002	SHEET 1 OF 1



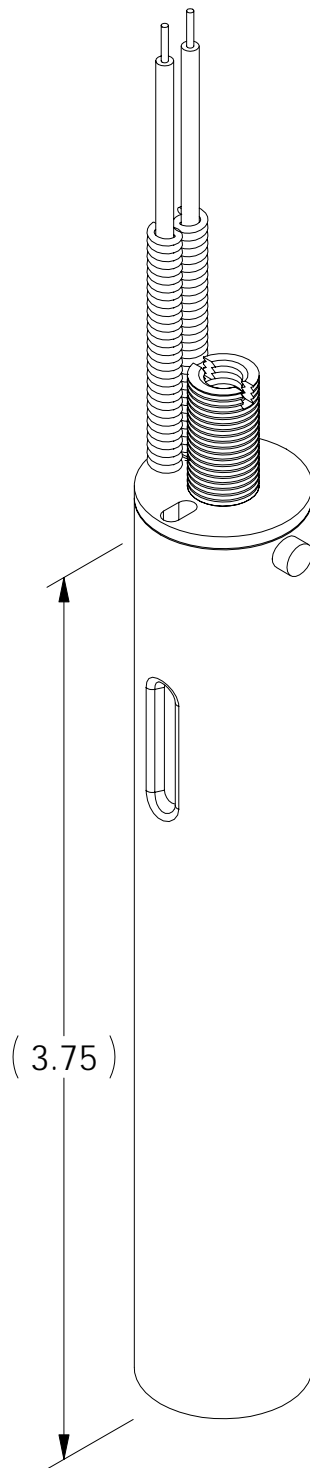
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Air Tank for Westinghouse AA-7
pneumatic operating mechanism

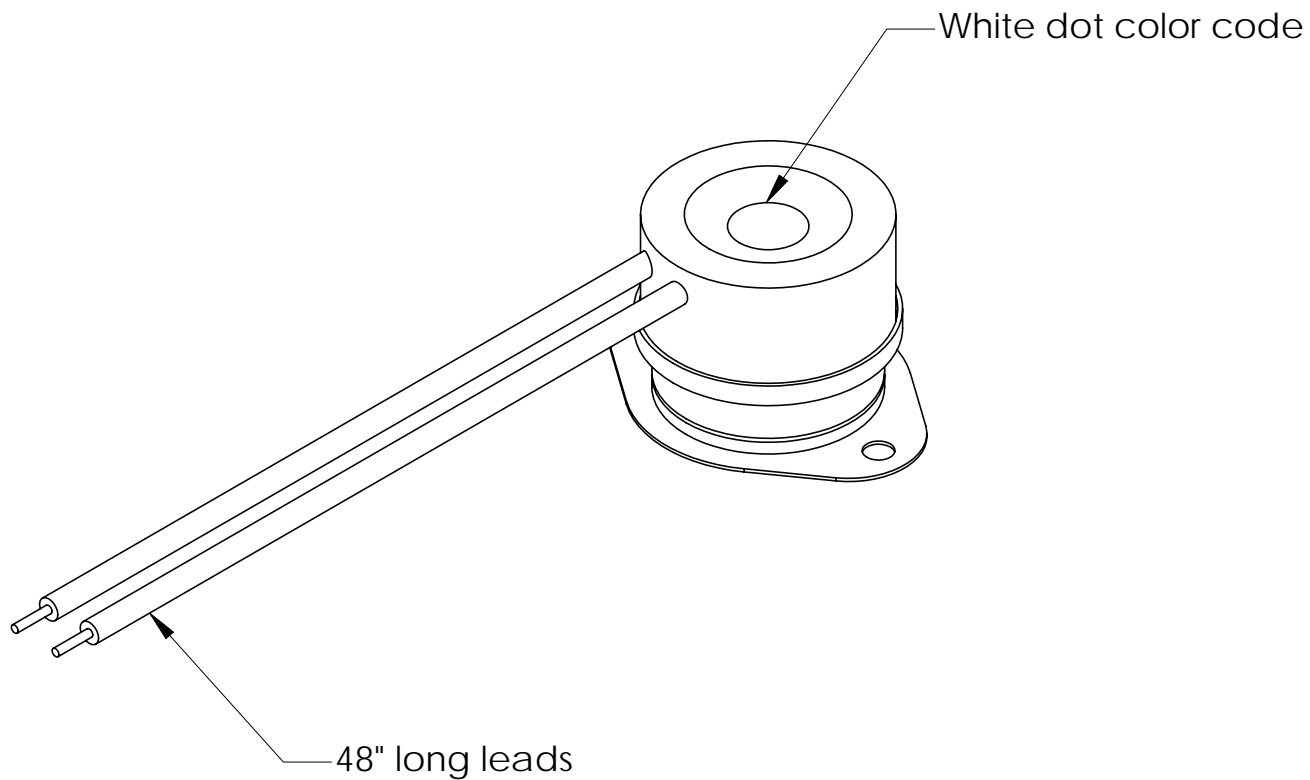
SIZE A	DWG. NO. 37613AMK	REV. 0
SCALE 1:1	Date: 02-02-2002	SHEET 1 OF 1



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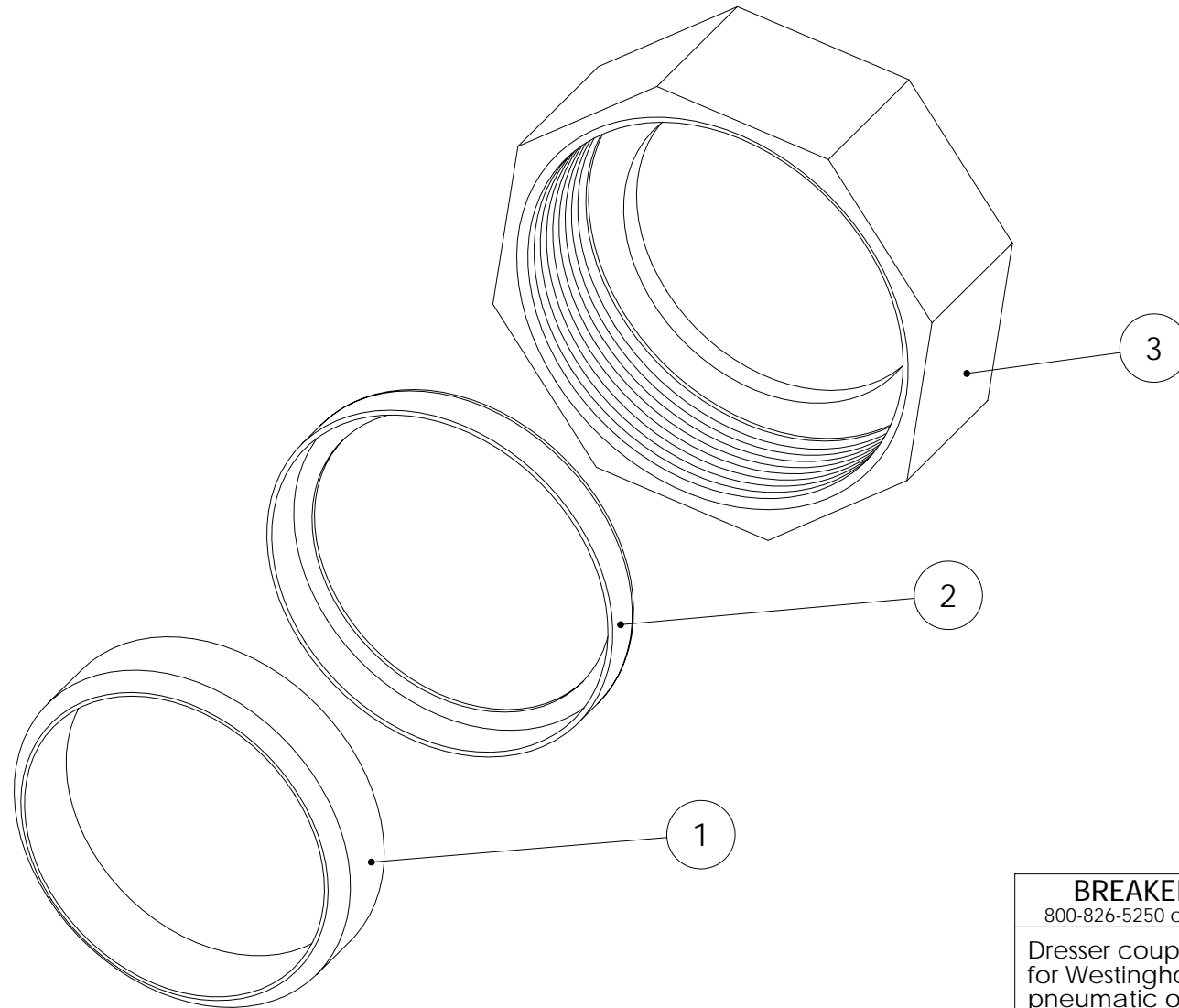
BREAKER SERVICE INC			
800-826-5250 office 888-267-7690 fax			
Thermostat for control valve heaters used in GE MA-XX circuit breaker operating mechanisms. For all heater voltages.			
SIZE A	DWG. NO. 37628AMK	REV. 0	
SCALE: NTS	Date: 01-06-2003	SHEET 1 OF 1	



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BREAKER SERVICE INC			
800-826-5250 office 888-267-7690 fax			
Thermostat Westinghouse # 266C072H09 Color code: one white dot			
SIZE A	DWG. NO. 37691AMK	REV. 0	
SCALE 1:1	Date: 02-02-2003	SHEET 1 OF 1	

ITEM NO.	QTY.	DESCRIPTION
1	1	Gasket
2	1	Retainer
3	1	Nut



PROPRIETARY AND CONFIDENTIAL

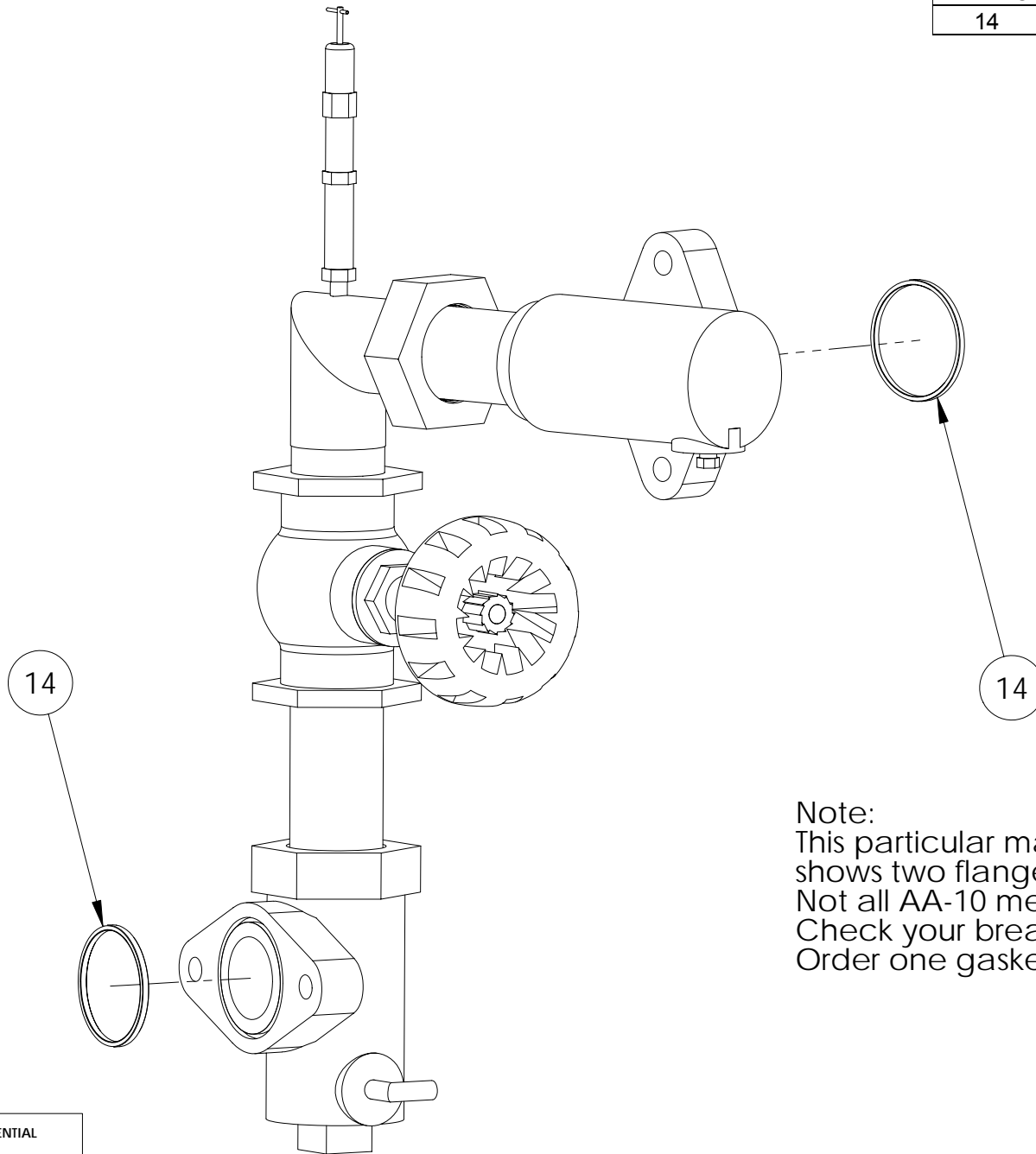
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BREAKER SERVICE INC
800-826-5250 office 888-267-7690 fax

Dresser coupling assembly
for Westinghouse AA-10
pneumatic operating mech.
For 1.900 inch O.D. pipe

SIZE A	DWG. NO. 30522	REV. 0
SCALE: NTS	Date: 08-09-2003	SHEET 1 OF 1

ITEM NO.	QTY.	DESCRIPTION
14	2	Gasket



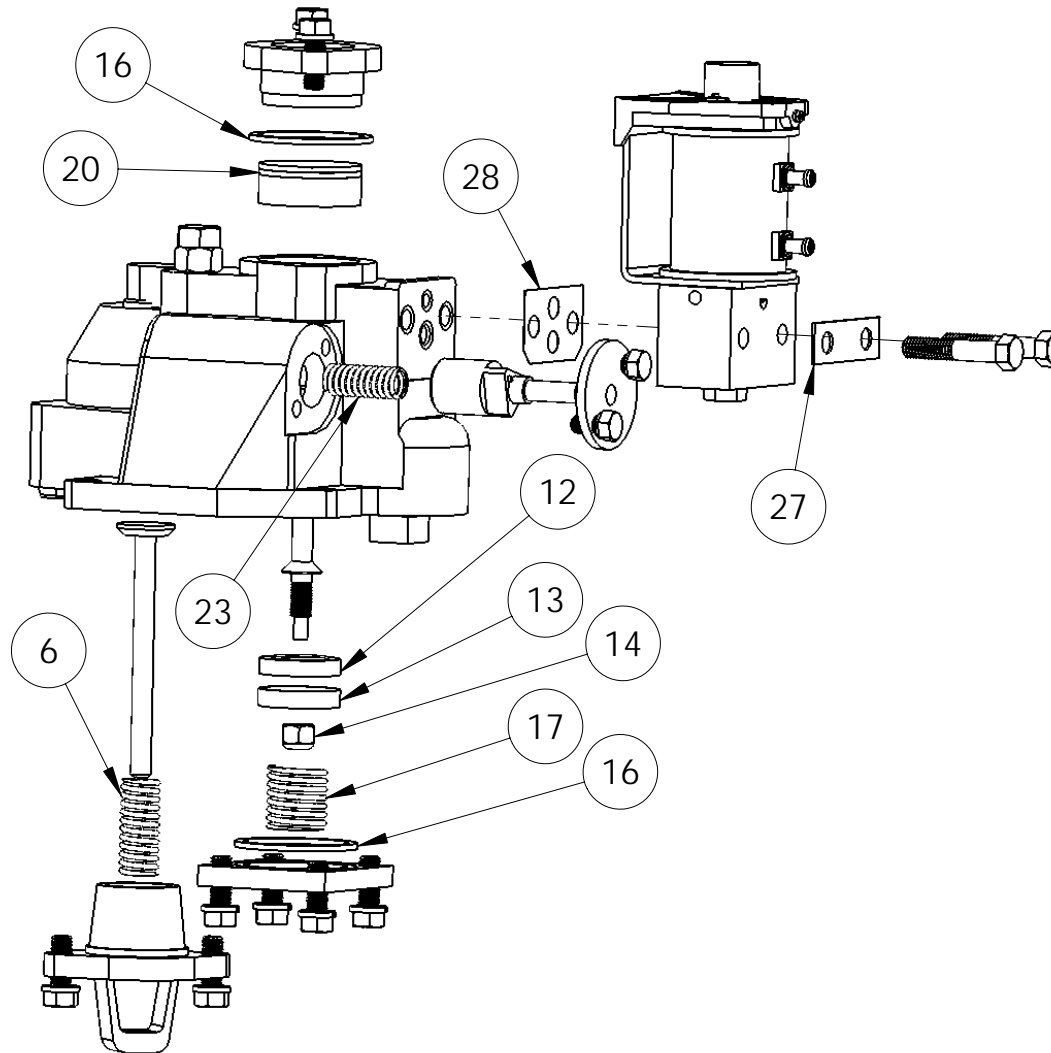
Note:
 This particular manifold configuration shows two flanges, requiring 2 gaskets. Not all AA-10 mechs have 2 flanges. Check your breaker for your particular needs. Order one gasket (part# 30523) per flange.

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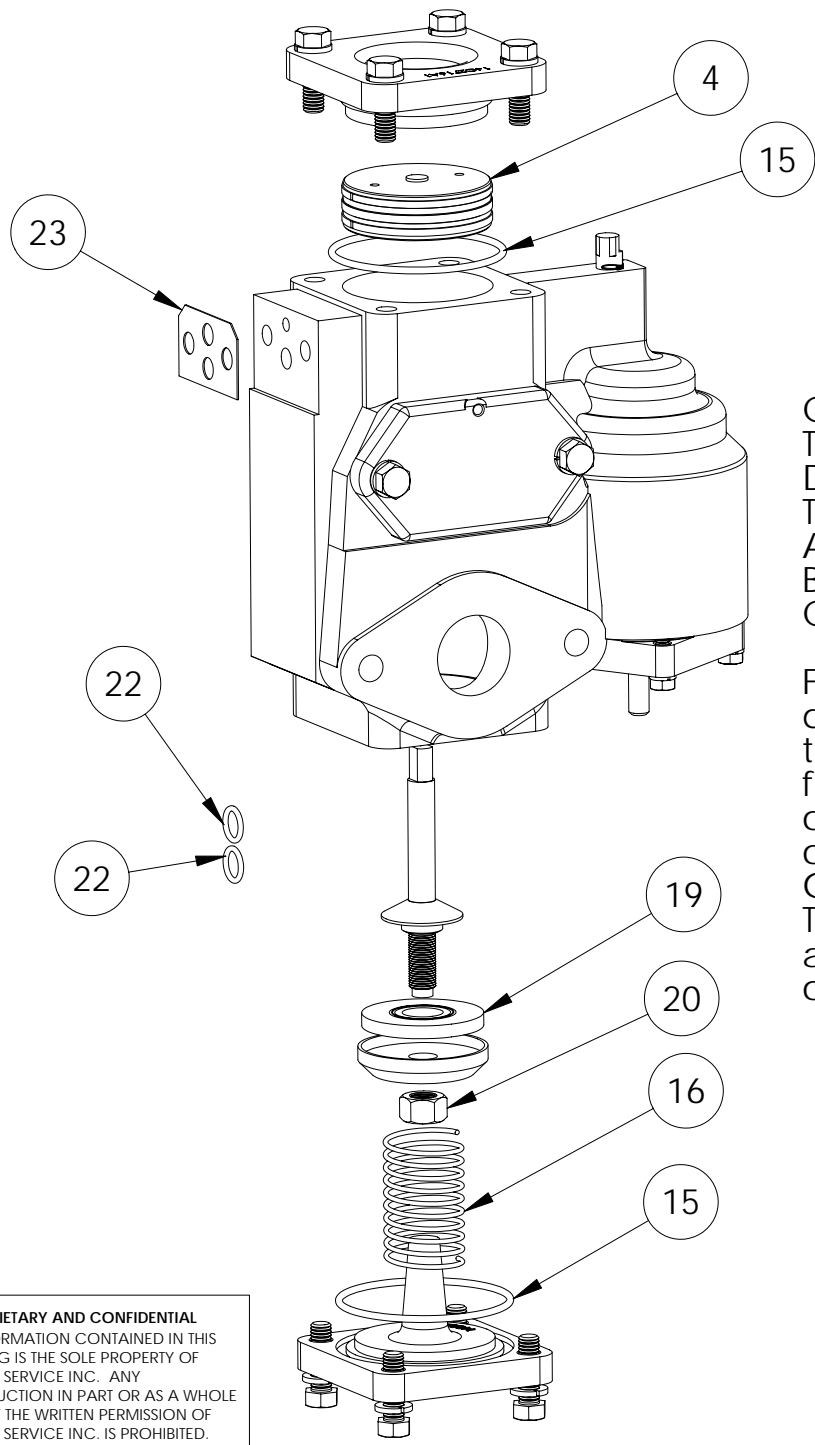
BREAKER SERVICE INC			
800-826-5250 office 888-267-7690 fax			
Gasket for flanges on Westinghouse AA-10 pneumatic operating mech.			
SIZE A	DWG. NO. 30523	REV. 0	
SCALE: NTS	Date: 08-09-2003	SHEET 1 OF 1	

ITEM NO.	QTY.	PART NO.	DESCRIPTION
6	1	37748AMK	Spring 1735863 / 1D61130H05 / 5086B49H06
12	1	30614	Valve Disc 1644478 / 24D9629H01 / 5086B49H03
13	1	30615	Disc Support SST 1644475 / 22D8972H02 / 5086B49H12
14	1	37753AMK	Elastic Stop Nut 1627943 / 70220DAN1B / 5086B49H11
16	2	22343	O-ring 1644476 / 5492C46H19 / 5086B49H07
17	1	37749AMK	Spring 1644423 / 23D2758H04 / 5086B49H04
20	1	37751AMK	Piston Ring 1644477 / 534539 / 23B2997H31 / 5086B49H02
23	1	37750AMK	Spring 1644424 / 23D2758H05 / 5086B49H05
27	1	37747AMK	Locking Clip 1216890 / 6D8917H18 / 5086B49H09
28	1	30535 / 37131AMK	Gasket 1589255 / 1659B85H01 / 5086B49H08



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BREAKER SERVICE INC			
800-826-5250 office 888-267-7690 fax			
Kit to rebuild Westinghouse AA-7 Main Control Valve			
SIZE A	DWG. NO. 37746AMK	REV. 2	
SCALE 1:3.5	Date: 02-02-2002	SHEET 1 OF 1	



ITEM NO.	QTY.	DESCRIPTION
4	1	Piston Assy - New Style
15	2	O-ring
16	1	Spring
19	1	Valve Disc
20	1	Lock Nut
22	2	Adapter Plate O-ring
23	1	Gasket

CAUTION !!!

The new piston is shipped with a white ring on it.
DO NOT discard this ring.

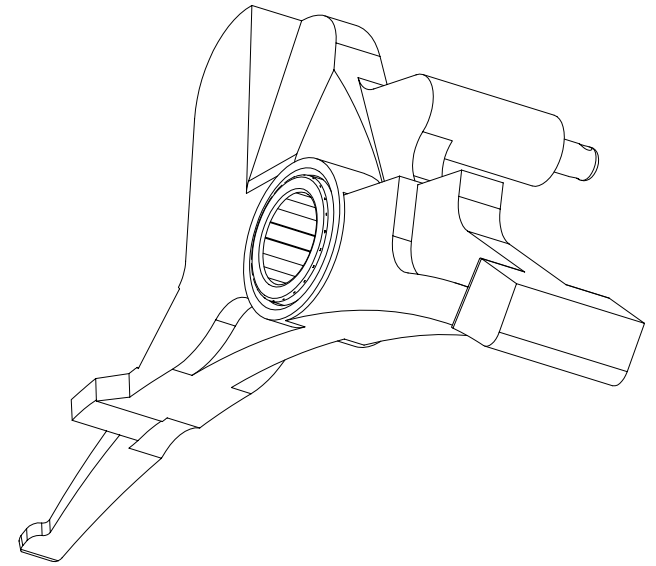
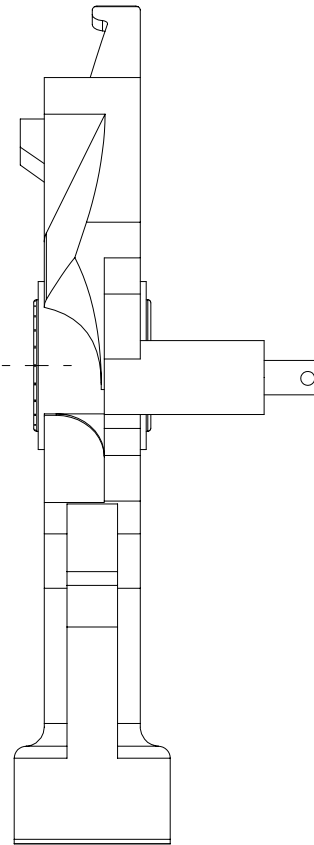
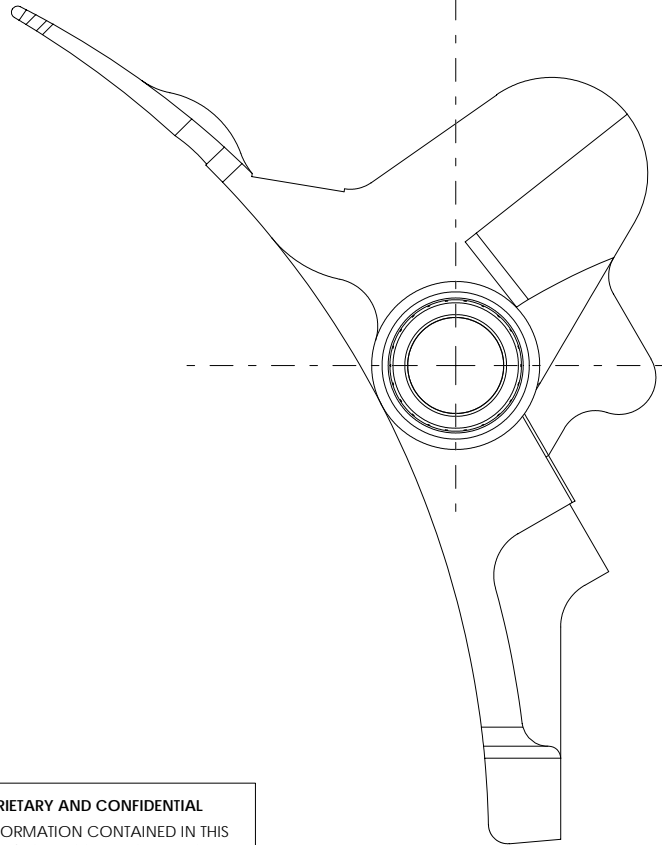
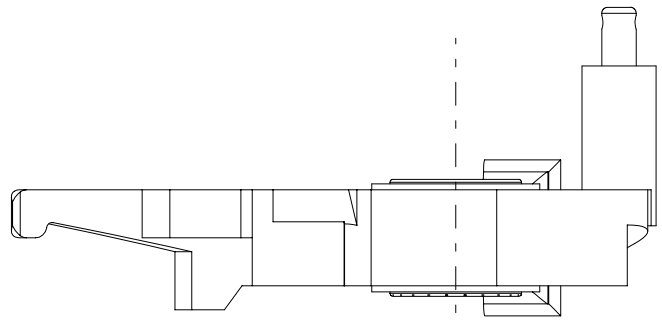
This ring serves 3 functions:

- A) To protect the piston, guide rings, and omniseal.
- B) As a re-sizing tool when the omniseal is installed.
- C) As the installation tool to insert the piston into the valve.

Failure to follow this instruction will cause concealed damage to the piston guide rings and omniseal. To install the piston, make sure that the hollow side of the piston is facing into the valve and at the bottom of the narrow end of the installation ring. Center the piston and installation ring over the bore and hold it flush with the face of the valve. Gently push the piston through the ring directly into the bore. This will prevent the guide rings and omniseal from expanding as they enter the bore, thus avoiding damage from the edge of the bore.

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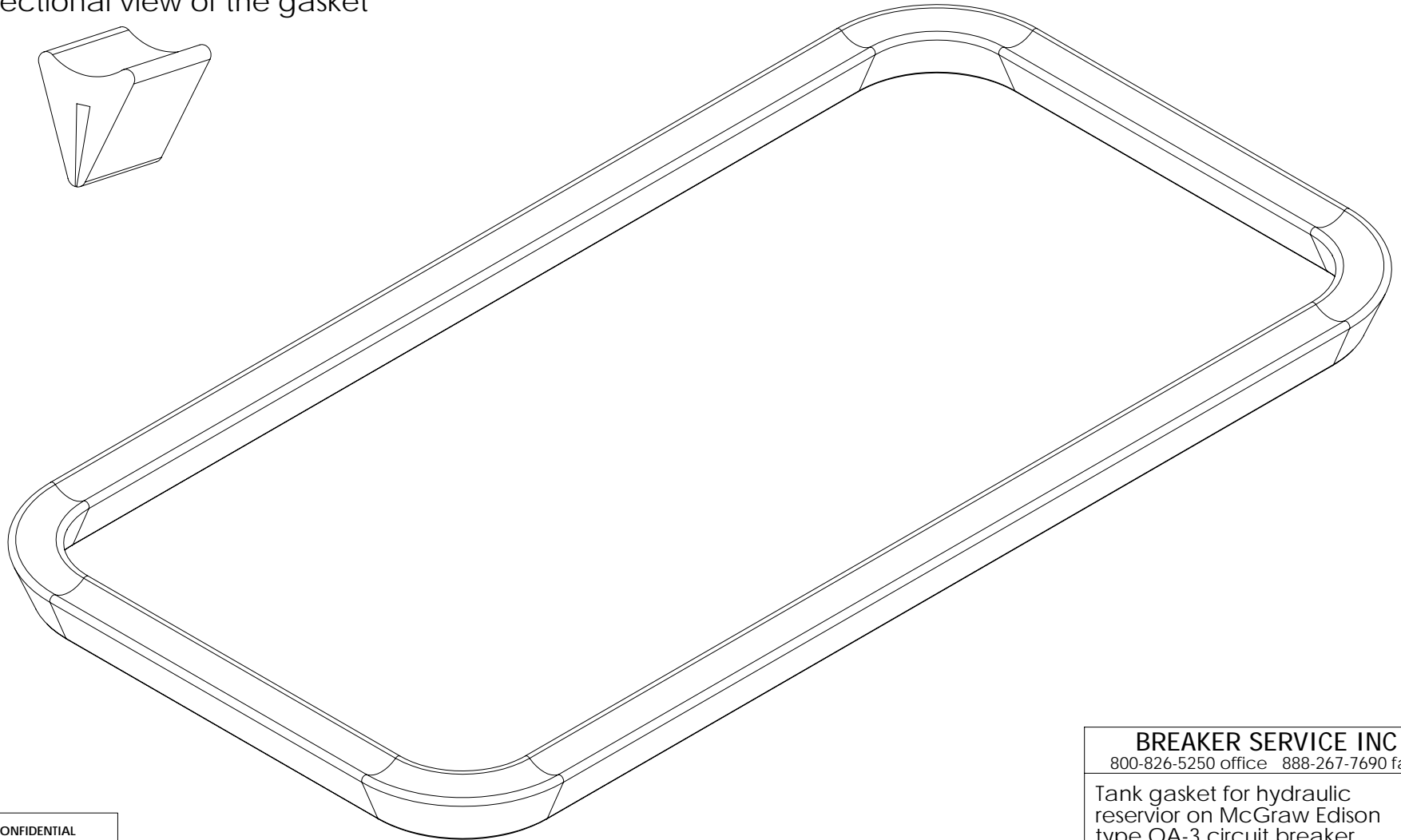
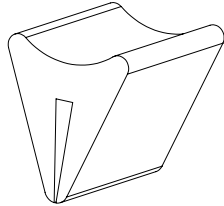
BREAKER SERVICE INC		
800-826-5250 office 888-267-7690 fax		
Kit to rebuild Westinghouse AA-10 mechanism control valve		
SIZE A	DWG. NO. 37652AMK	REV. 0
SCALE: NTS	Date: 01-15-2003	SHEET 1 OF 1



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BREAKER SERVICE INC			
800-826-5250 office 888-267-7690 fax			
Trip free trigger For Westinghouse AA-10 mech ABB part # 23D6021G02 Westinghouse style # 1647752			
SIZE A	DWG. NO. 37272AMK	REV. 0	
SCALE 1:1	Date: 02-02-2003	SHEET 1 OF 1	

Cross sectional view of the gasket



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BREAKER SERVICE INC
800-826-5250 office 888-267-7690 fax

Tank gasket for hydraulic
reservoir on McGraw Edison
type OA-3 circuit breaker
operating mechanisms

SIZE A	DWG. NO. 37270AMK	REV. 0
SCALE 1:2	Date: 02-02-2003	SHEET 1 OF 1

CASE: CAST ALUMINUM WITH ASA #70 LIGHT GRAY FINISH.

BEZEL: STAINLESS STEEL - REMOVABLE.
DIAL COLORS: BACKGROUND - BLACK
CHARACTERS - WHITE

POINTER COLOR: WHITE

MAX. INDICATING POINTER COLOR: RED

SWITCH SETTING INDICATOR COLOR: SILVER

LENS: POLYCARBONATE

SWITCH SETTING ADJUSTABILITY: 16°-152°C.

SWITCH DIFFERENTIAL: 7.5 °C ± 2.5 °C.

ACCURACY: ± 2% OF DIAL RANGE.

SWITCH RATING: UL/CSA RATING:

10 AMPS AND 1/3 HP @ 125, 250, VAC

1/2 AMP @ 125 VDC (NON-INDUCTIVE)

1/4 AMP @ 250 VDC (NON-INDUCTIVE)

4 AMPS @ 125 VAC "L" (LAMP LOAD)

DIELECTRIC STRENGTH: 1,500 VOLTS TO GROUND FOR 60 SECONDS.

TO ADJUST SWITCH INDICATOR(S):

A) REMOVE BEZEL AND LENS ASSEMBLY.

B) LOOSEN SCREWS AND MOVE SWITCH SETTING INDICATOR TO DESIRED SETTING. RE-TIGHTEN SCREWS.

C) REPLACE BEZEL AND LENS ASSEMBLY.

TO CHECK SWITCH OPERATION MANUALLY:

A) REMOVE BEZEL AND LENS ASSEMBLY.

B) TURN POINTER CLOCKWISE PAST THE SWITCH SETTING INDICATOR.

C) SLOWLY RETURN THE POINTER TO ITS ORIGINAL POSITION.

D) REPLACE BEZEL AND LENS ASSEMBLY.

CAUTION!! POINTER MUST NEVER BE TURNED COUNTERCLOCKWISE.

KIT DATA:

UNIT IS SUPPLIED WITH KIT P/N KIT-009-6 CONSISTING OF:

4 SLEEVES - PROVIDED TO ADAPT SENSING BULB TO VARIOUS THERMOWELL SIZES.

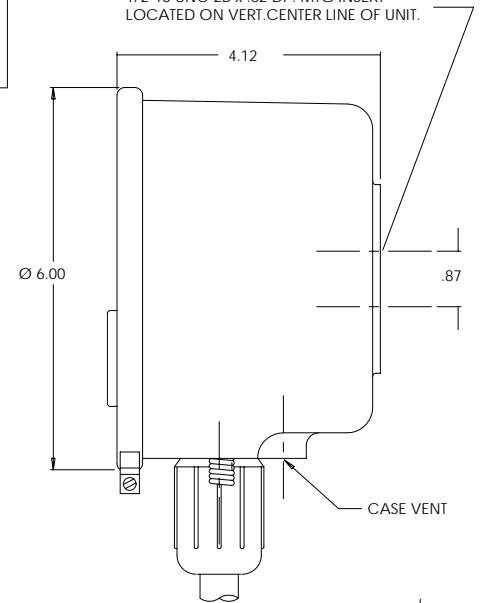
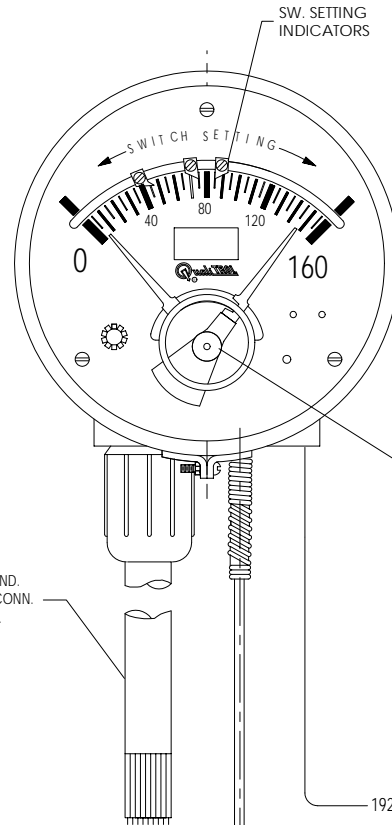
1 WINDING TEMPERATURE LOWER DIAL.

1 LIQUID TEMPERATURE LOWER DIAL.

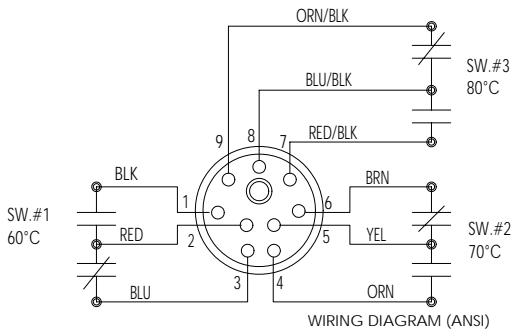
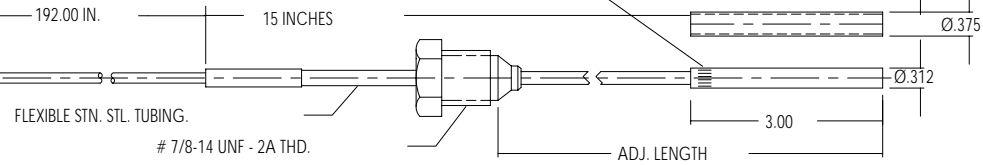
MODEL NO. **104-666-03**

**6" REMOTE MT. THERMO
(3 SWITCH)**

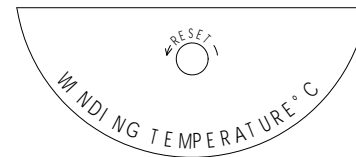
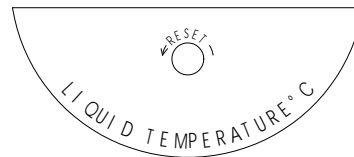
1/2-13 UNC-2B x .62 DP. MTG INSERT LOCATED ON VERT. CENTER LINE OF UNIT.



STRAIGHT KNURLING TO INSURE PRESS FITTING OF SLEEVE TO STD. BULB.



WIRING DIAGRAM (ANSI)



SHOWN LOOKING AT MALE INSUL. ASSY. FROM OUTSIDE OF CASE.

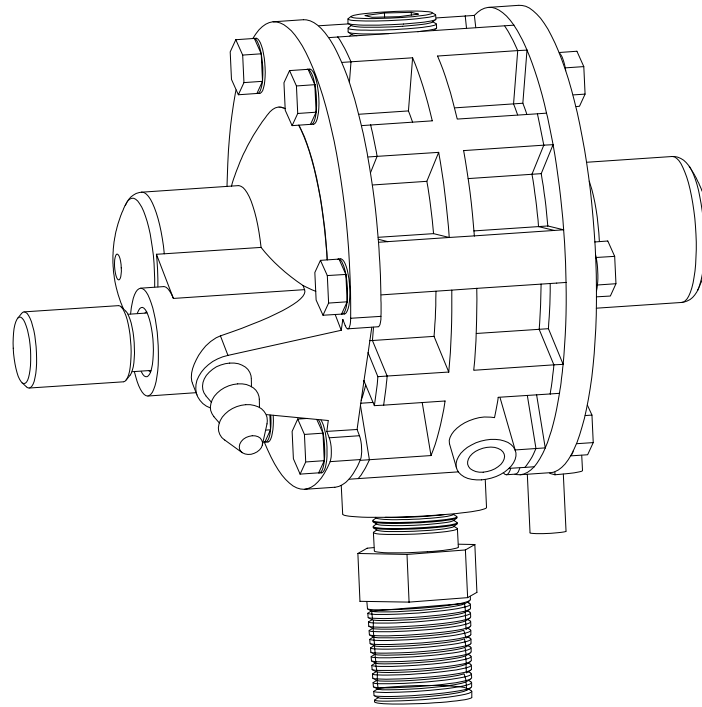
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BREAKER SERVICE INC
800-826-5250 office 888-267-7690 fax

Universal 6" remote indicating thermometer with 3 switches, 192" capillary and 72" cable. Qualitrol # 104-666-03

SIZE A	DWG. NO. 37629AMK	REV. 0
SCALE: NTS	Date: 01-06-2003	SHEET 1 OF 1



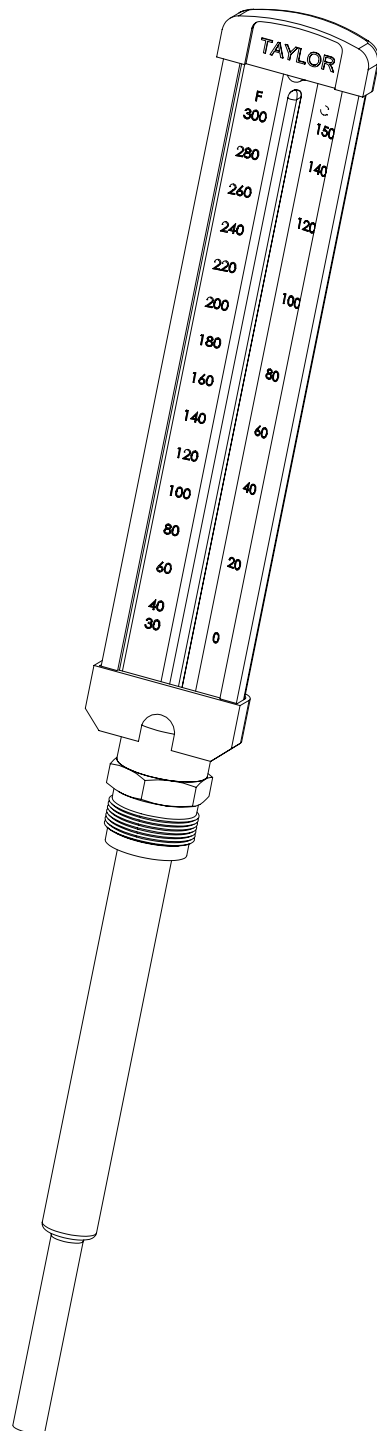
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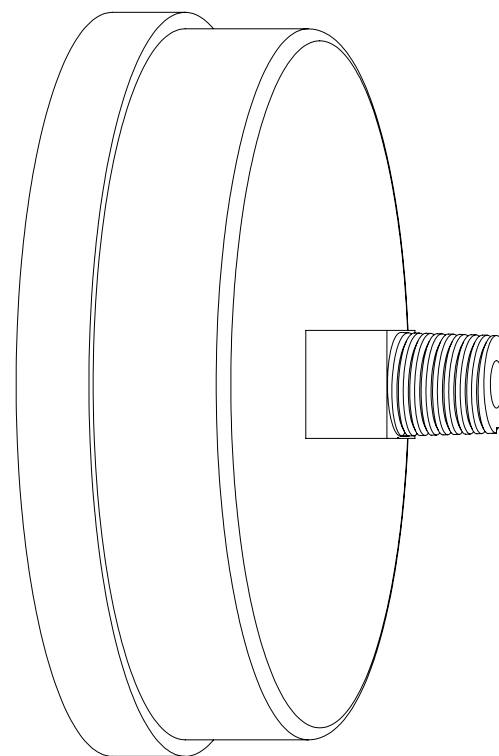
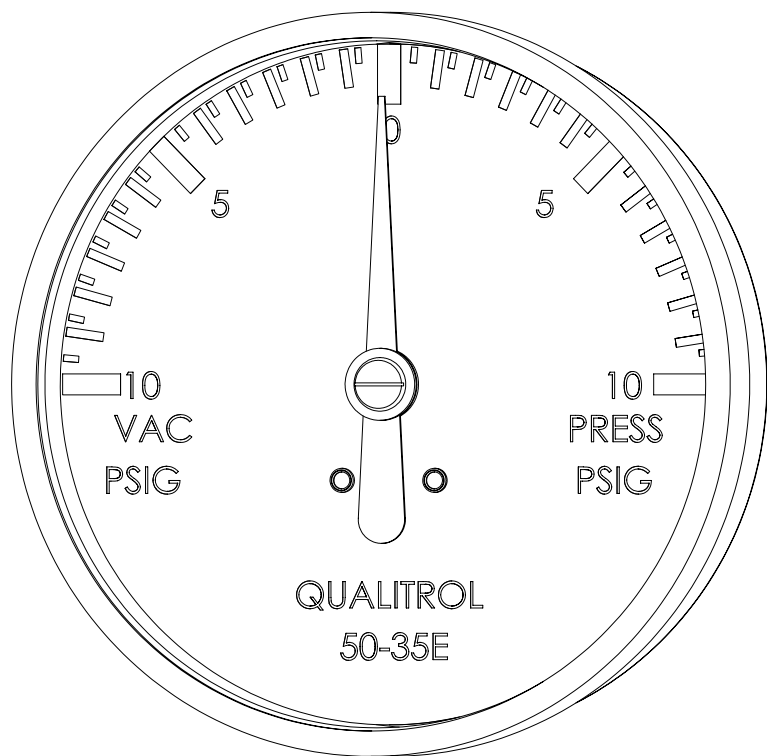
Pressure/Vacuum Bleeder
Qualitrol # 351-2A
Set at +5 / -5 psi

SIZE A	DWG. NO. 37409AMK	REV. 0
SCALE 1:1	Date: 02-02-2003	SHEET 1 OF 1



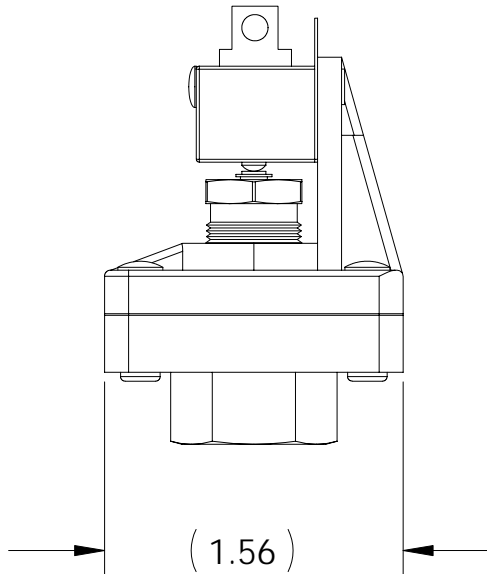
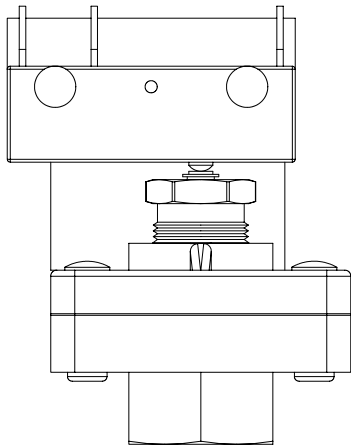
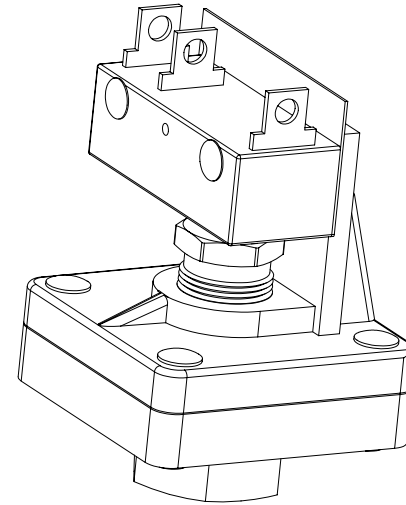
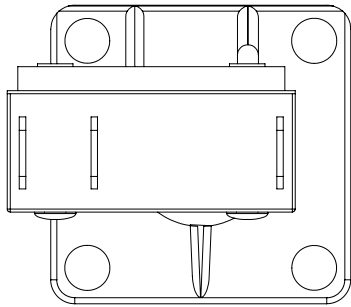
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BREAKER SERVICE INC 800-826-5250 office 888-267-7690 fax		
Taylor Thermometer		
SIZE A	DWG. NO. 37755AMAMK	REV. 0
SCALE 1:1	Date: 02-02-2003	SHEET 1 OF 1



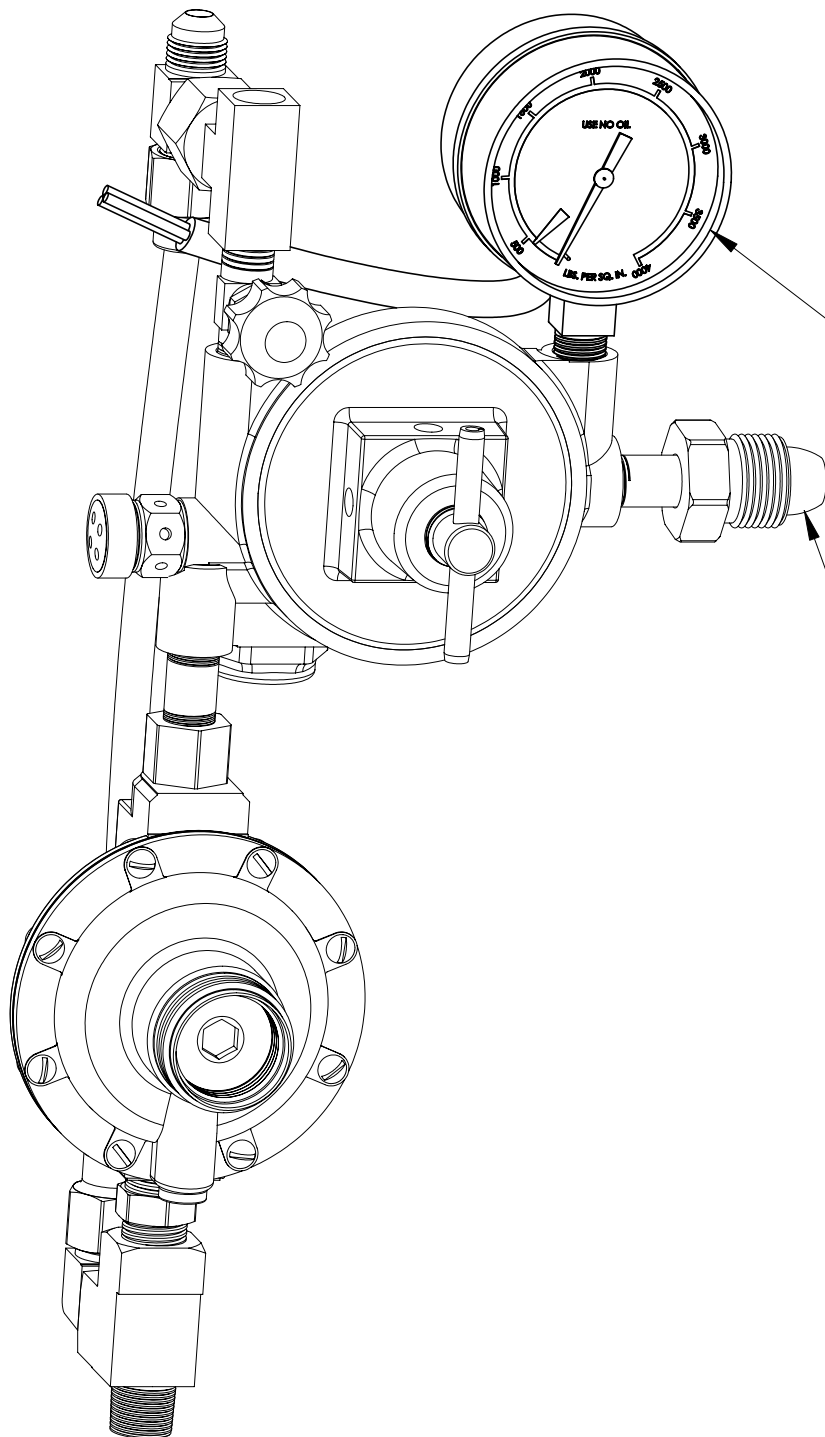
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BREAKER SERVICE INC		
800-826-5250 office 888-267-7690 fax		
Gauge, pressure / vacuum		
Range +10 / -10 psig		
Qualitrol part # 50-35E		
Used on transformer Nitrogen systems.		
SIZE A	DWG. NO. 37544AMK	REV. 0
SCALE 1:1	Date: 02-02-2003	SHEET 1 OF 1



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BREAKER SERVICE INC			
800-826-5250 office 888-267-7690 fax			
Pressure or Vacuum switch for transformer Nitrogen space. 1 N.O. & 1 N.C. contact 1/4 in female pipe connection			
SIZE A	DWG. NO. 37756AMK	REV. 0	
SCALE 1:1	Date: 02-02-2003	SHEET 1 OF 1	



Bottle alarm gauge

Standard Nitrogen
bottle connector

PROPRIETARY AND CONFIDENTIAL

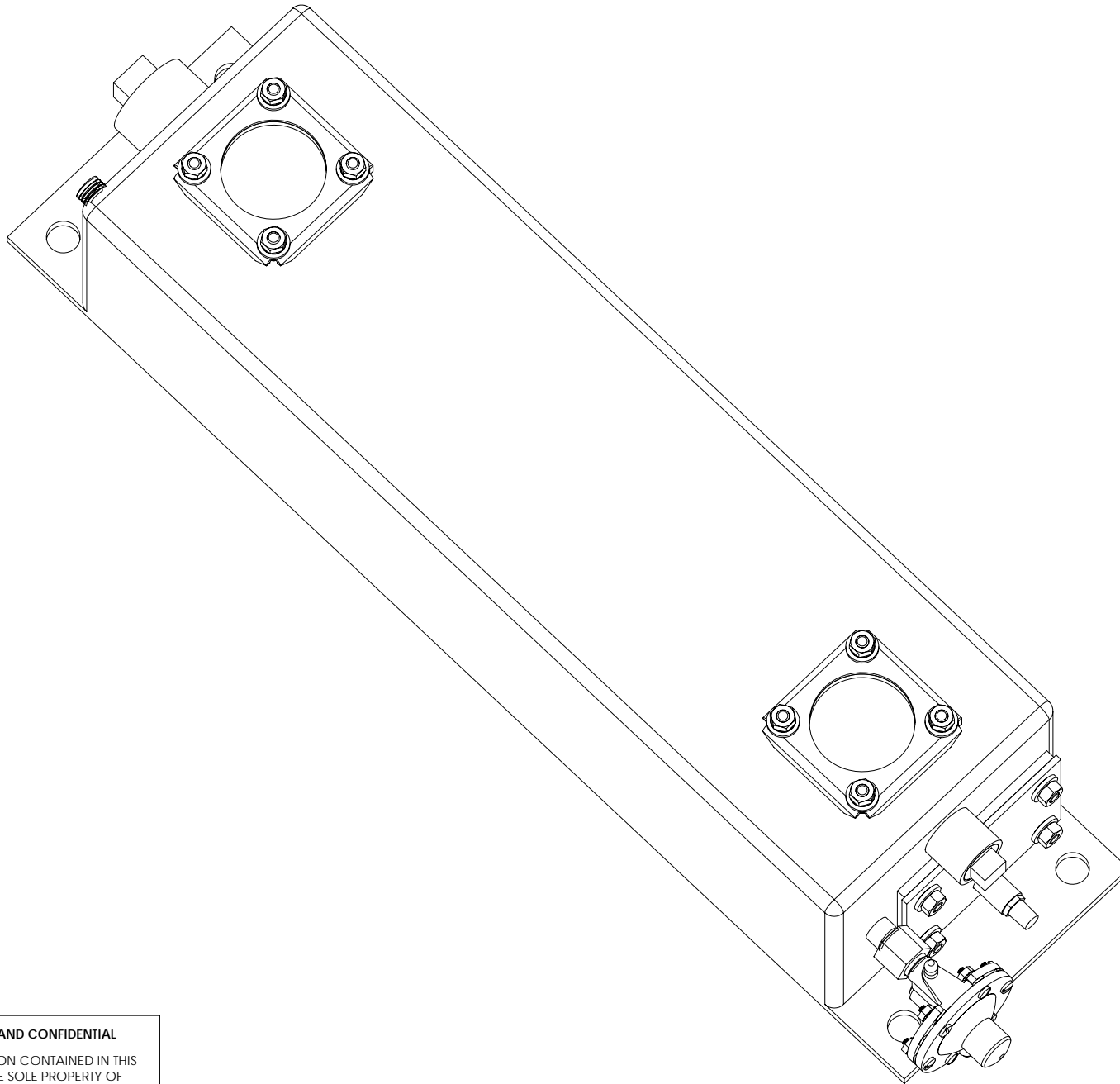
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BREAKER SERVICE INC

800-826-5250 office 888-267-7690 fax

Nitrogen regulator assembly
with bottle alarm gauge and
bypass valve

SIZE A	DWG. NO. 37730AMK	REV. 0
SCALE 1:2	Date: 02-02-2003	SHEET 1 OF 1



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BREAKER SERVICE INC			
800-826-5250 office 888-267-7690 fax			
Desiccant breather for transformers & tapchangers			
SIZE	DWG. NO.	REV.	
A	37685AMK	0	
SCALE: 1:3	Date: 08-09-2003	SHEET 1 OF 1	