



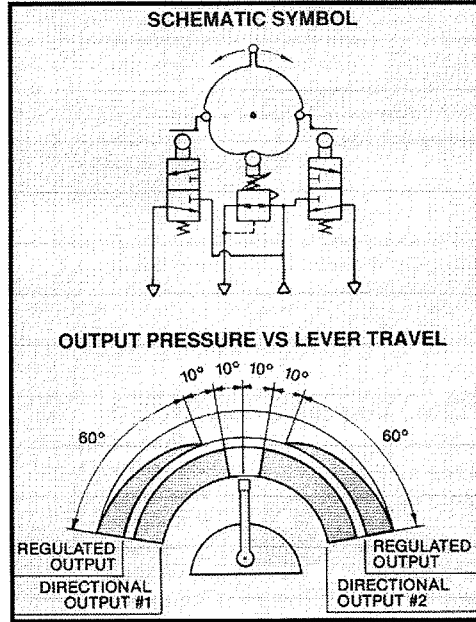
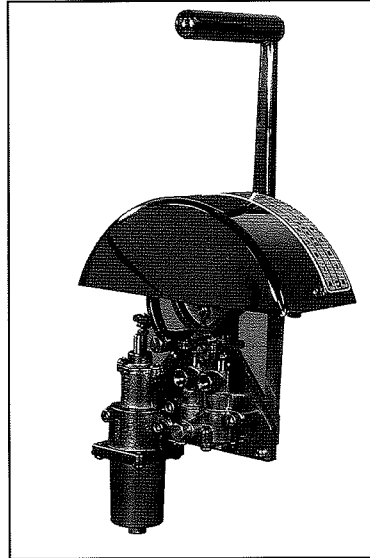
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St. Louis, MO 63137  
Phone: 1-800-381-9968

# HUMCO ENGINE CONTROLS

## Kobelt Dual Function Control Head

**HOBELT**

### 2544 Dual Function Control Head 1/8" NPT



6

**DESCRIPTION**

The 2544 Control Head consists of two 3-way directional control valves and an accurate, self-relieving pressure regulating valve. All valves are handle-cam actuated. With the handle in center position, both 3-way valve outputs are vented to atmosphere and the regulating valve output pressure is lowest. Movement of the handle through the first 20° in either direction actuates one of the 3-way valves, delivering full supply pressure to the chosen directional output. Handle output beyond 20° actuates the regulating valve, delivering its output according to handle position. The chosen directional output remains at full supply pressure from 10° to 80° of handle travel.

**Weight:** 9.1 lbs. (4.1 kg.)

**Materials:** Die-cast silicon bronze and stainless steel hardware.

**Maximum Supply Pressure:** 150 PSI (10.34 BAR)

**Operating Temperature Range:** -40°C to +90°C.

**Pipe Port Size:** 1/8" NPT

**APPLICATIONS**

- Used primarily for the control of throttles or governors and reverse clutches by a single handle.
- For pneumatic control of two mechanisms, one directional and the other proportional, by a single handle.

**ORDERING INFORMATION**

Model Designation Order Codes:

- C - One short handle (standard)
- D - One long handle
- E - Spring return handle
- V - Handle with plastic grip
- H - Chrome finish dome
- J - Polished brass finish dome and handle
- K - Black epoxy finish dome and chrome handle
- N - 0-60
- P - 0-80
- R - 0-100
- S - 0-120
- T - 10-60
- U - 10-80
- W - 10-100
- X - 10-120

Standard Pressure Ranges (PSI)  
Other Ranges Available on Request

The Standard Model 2544 Control Head is supplied as follows:

1. Short handle
2. Chrome finish cover and handle
3. In any standard pressure range

To order, state Model Number, followed by Model Designation Letter Codes listed above.



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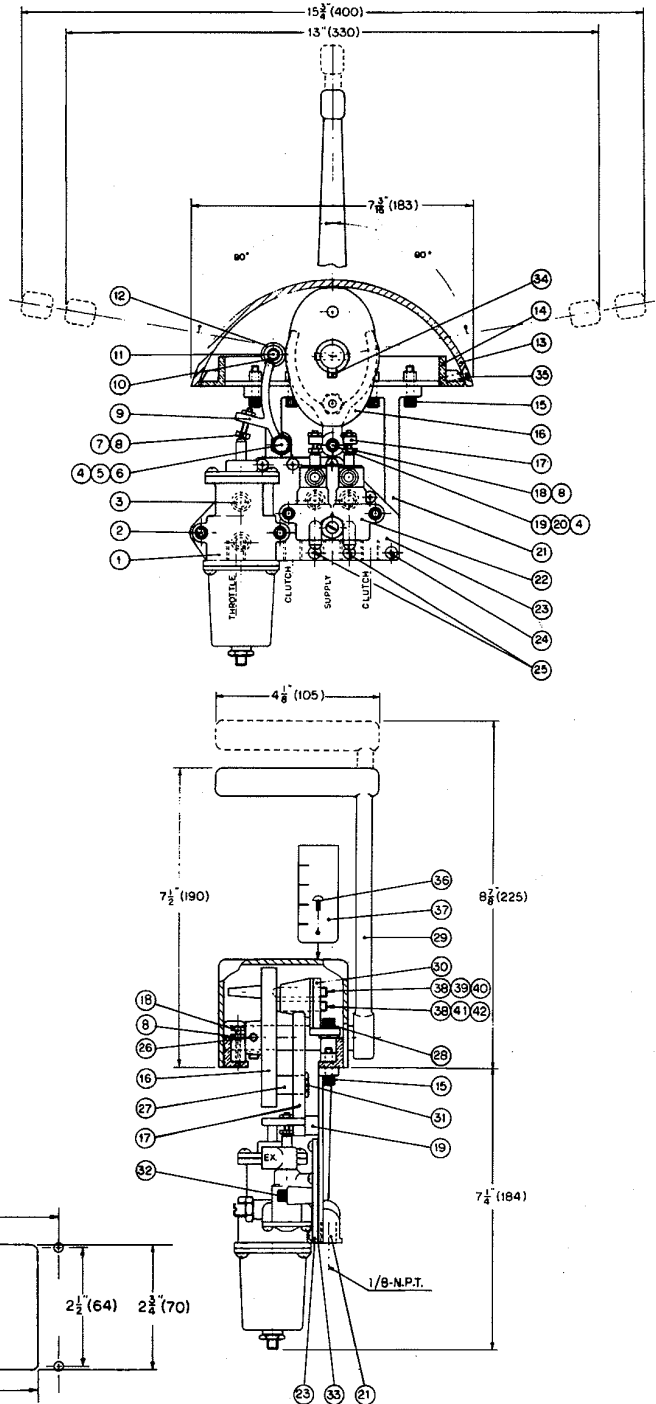
# HUMCO ENGINE CONTROLS

## Kobelt Dual Function Single Engine Control Head

# 2544 Dual Function Single Engine Control Head

**HOBELT**

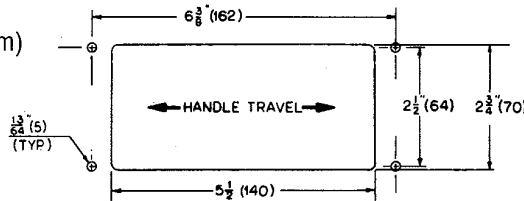
ITEM	QTY	PART NO.	DESCRIPTION
1	1	3217	Valve*
2	2	1002-1024	Socket Head Screw
3	5	1101-0010	"O" ring
4	2	1023-0232	Flat Washer
5	1	1001-1028	Hex Head Screw
6	1	2545-0002	Spacer
7	3	1001-0808	Hex Head Screw
8	5	1022-0108	Nut
9	1	2545-0001	Roller Arm
10	2	1029-1031	Snap Ring
11	1	2542-0011	Pin
12	1	2543-0009	Roller
13	1	2543-0001	Cover
14	1	2543-0002	Frame
15	4	1002-1010	Socket Head Screw
16	1	2545-0003	Cam
17	1	2545-0008	"Fork" Cam
18	2	1001-0812	Hex Head Screw
19	1	2544-0007	Bushing
20	1	1001-1020	Hex Head Screw
21	1	2544-0001	Ports Support
22	1	3803-B	Valve
23	1	2544-0003	Plate
24	5	1010-0806	Round Head Screw
25	3	1009-0806	Flat Head Screw
26	1	1024-0816	Spring Pin
27	1	2544-0004	Roller
28	2	1002-1008	Socket Head Screw
29	1	2545-0005	Handle (Short)
29	1	2545-0014	Handle (Long)
29	1	2545-2005	Handle with Plastic Grip (Short)
29	1	2545-2014	Handle with Plastic Grip (Long)
30	1	2542-0009	Bracket
31	1	2544-0005	Shoulder Screw
32	2	1002-1020	Socket Head Screw
33	1	2544-0008	Gasket
34	1	1016-1004	Set Screw
35	2	1005-0808	Oval Head Screw
36	2	1032-0304	Rivet
37	1	2545-0013	Indicator Strip
38	2	1016-1205	Set Screw
39	1	1201-0062	Spring
40	1	2545-0012	Detent Pin
41	1	1201-0003	Spring
42	1	2545-0021	Friction Pad



• When ordering valve, specify pressure range using Model Designation Letter Codes from previous page.

A Repair Kit is available consisting of all seals and gaskets.  
Order No. 2544-RK.

ALL DIMENSIONS IN INCHES (mm)



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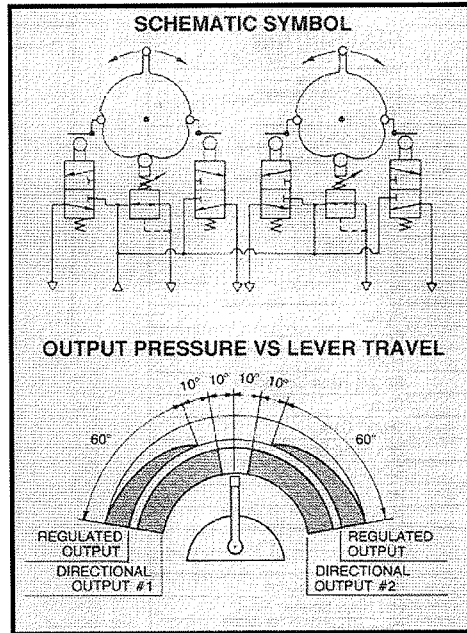
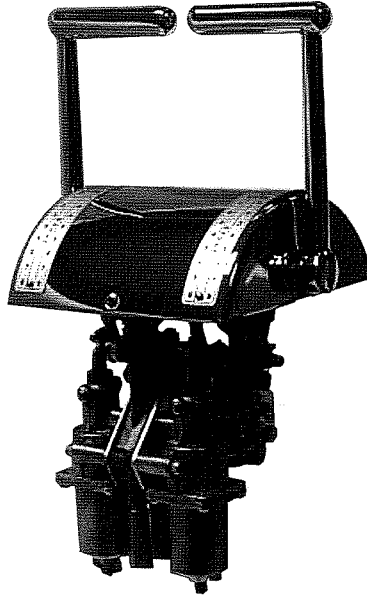
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# HUMCO ENGINE CONTROLS

## Kobelt Twin Dual-Function Control Head

**KOBELT**

### 2545 Twin Dual-Function Control Head 1/8" NPT



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**DESCRIPTION**

The 2545 control is designed for twin-engine, single-lever clutch and throttle control. Its all bronze and stainless steel construction gives years of trouble-free service in a marine environment.

It basically consists of two single engine controls under one cover. Movement of either one of the handles through 20° from the center position actuates one of the 3-way valves, delivering full supply pressure to its corresponding output port. Moving the handle beyond 20° actuates an accurate pressure regulating valve. The output of this valve is proportional to the handle movement, therefore giving precise control over the engine speed setting device.

**Weight:** 19.9 lbs. (9.1 kg)

**Materials:** Die-cast silicon bronze and stainless steel

**Operating Temperature Range:** -40°C to +90°C

**Pipe Port Size:** 1/8" NPT (Outputs)  
1/4" NPT (Supply)

**Maximum Supply Pressure:** 150 PSI (10.3 BAR)

**APPLICATIONS**

- Used principally for the control of twin engines and twin clutches by two dual-function handles.
- Used whenever two sets of directional and proportional pneumatic controls are required.

**ORDERING INFORMATION**

Model Designation Order Codes:

- CC - Two short handle (standard)
  - DD - One long handle
  - E - Spring return handles
  - V - Handles with plastic grip
  - H - Chrome finish dome
  - J - Polished brass finish dome and handle
  - K - Black epoxy finish dome and chrome handle
  - N - 0-60
  - P - 0-80
  - R - 0-100
  - S - 0-120
  - T - 10-60
  - U - 10-80
  - W - 10-100
  - X - 10-120
- } Standard Pressure Ranges (PSI)  
} Other Ranges Available on Request

The Standard Model 2545 Control Head is supplied as follows:

- Short handles
1. Chrome finish cover and handles
  2. In any standard pressure range

To order, state Model Number, followed by Model Designation Order Codes listed above.

**Example:** Standard 2545 with 10-80 PSI pressure range.  
Order No. 2545-CCHU.



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# HUMCO ENGINE CONTROLS

## Kobelt Twin Dual-Function Control Head

# 2545 Twin Dual-Function Control Head

**HOBELT**

ITEM	QTY	PART NO.	DESCRIPTION
1	2	2543-0009	Roller
2	2	2542-0011	Pin
3	4	1029-1031	Snap Ring
4	2	1005-0808	Oval Head Screw
5	4	1002-1010	Socket Head Screw
6	2	2545-0001	Roller Arm
7	4	1001-0812	Hex Head Screw
8	10	1022-0108	Nut
9	2	1001-1028	Hex Head Screw
10	2	2545-0002	Spacer
11	10	1101-0010	"O" Ring
12	4	1002-1024	Socket Head Screw
13	2	3217	Air Pressure Regulating Valve*
14	2	2545-0003	Cam
15	2	2542-0009	Bracket
16	1	2545-0004	Dome
17	2	2545-0005	Handle (Short)
17	2	2545-0014	Handle (Long)
17	2	2545-2005	Handle with Plastic Grip (Short)
17	2	2545-2014	Handle with Plastic Grip (Long)
18	1	2545-0006	Frame
19	2	2544-0005	Shoulder Screw
20	2	2545-0008	"Fork" Cam
21	2	1002-1040	Socket Head Screw
22	2	2545-0009	Spacer
23	6	1001-0808	Hex Head Screw
24	1	2545-0010	Ports Support
25	4	1002-1020	Socket Head Screw
26	2	3803-B	Four-Way Valve
27	2	2545-0011	Plate
28	26	1010-0806	Round Head Screw
29	4	1016-1205	Set Screw
30	2	1201-0062	Spring
31	2	2545-0012	Detent Pin
32	2	2545-0021	Friction Pad
33	2	1024-0816	Spring Pin
34	2	1016-1004	Set Screw
35	2	2544-0004	Roller
36	4	1023-0232	Flat Washer
37	1	2545-0017	Gasket (Left Hand)
38	2	1201-0003	Spring
39	2	2545-0020	Spacer
40	4	1032-0304	Rivet
41	2	2545-0013	Indicator Strip
42	4	1002-1008	Socket Head Screw
43	6	1023-0410	Highcollar Washer
44	2	2545-0015	Extension
45	1	2545-0018	Gasket (Right Hand)

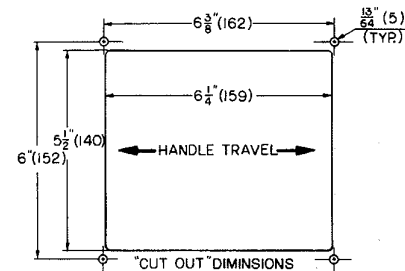
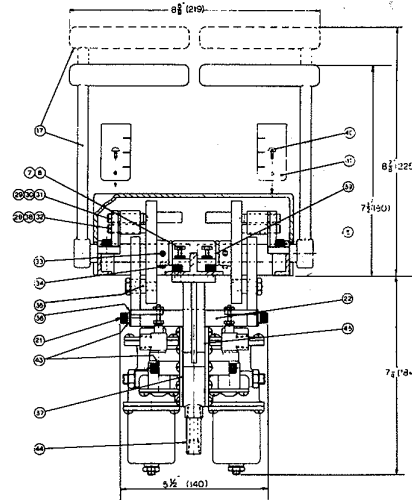
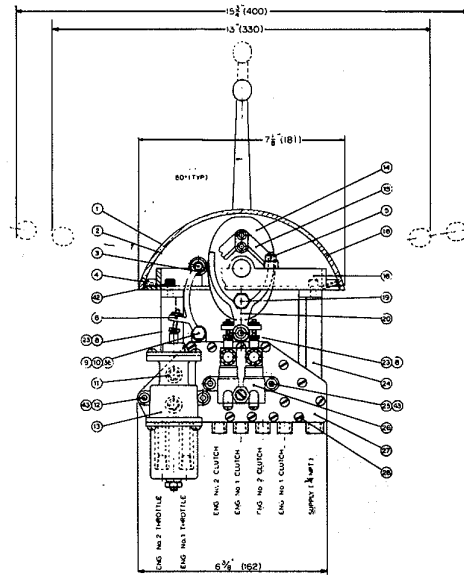
\*When ordering valve, specify pressure range using Model Designation Order Codes from previous page.

A Repair Kit is available consisting of all seals and gaskets. Order No. 2545-RK.

ALL DIMENSIONS ARE IN INCHES (mm.)

### MODEL 2555 DESCRIPTION

Model 2555 is essentially Model 2545, but it is equipped with illuminated side scales and with handles having pointers to indicate their position.





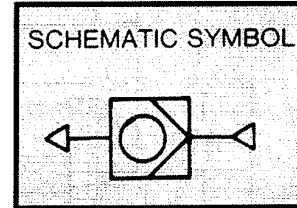
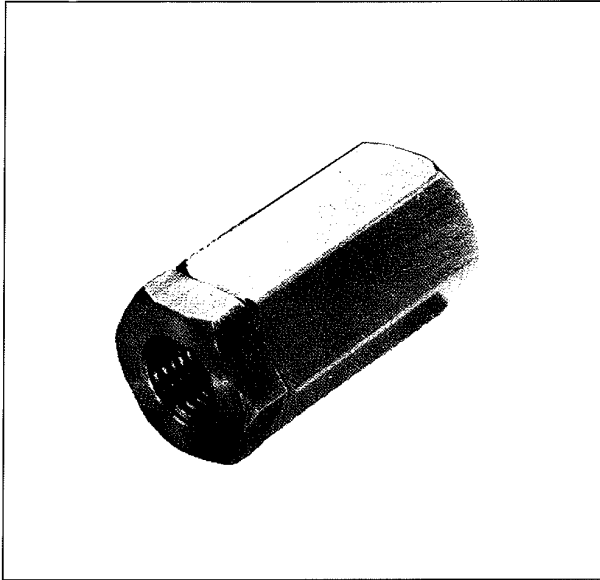
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# HUMCO ENGINE CONTROLS

## Kobelt Check Valve

**KOBELT**

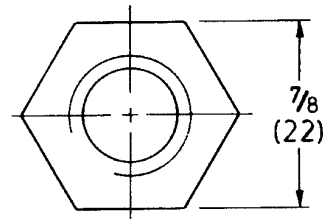
### Model 3007 Check Valve 1/4" NPT



#### DIMENSIONS AND PARTS

ITEM	QTY	PART NO.	DESCRIPTION
1	1	3007-0001	End Cap
2	1	1101-0016	"O" Ring
3	1	3804-0004	Poppet
4	1	1201-0022	Spring
5	1	3007-0002	Valve Body

A Repair Kit is available, consisting of all seals.  
Order No. 3007-RK.



ALL DIMENSIONS ARE IN INCHES (mm.)

#### DESCRIPTION

The 3007 check valve allows air to travel in one direction only. The unique heavy-duty poppet design ensures long, trouble-free service.

#### APPLICATION

Used wherever fluids are required to flow in one direction only

#### SPECIFICATIONS

**Weight:** .22 lbs. (0.1 kg)

**Materials:** Brass and stainless steel

**Operating Temperature Range:** -40°C to +90°C

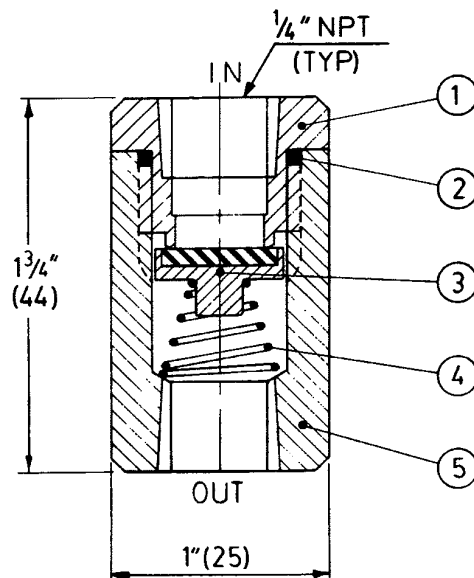
**Pipe Port Size:** 1/4" NPT

**Maximum Operating Pressure:** 250 PSI (17.24 BAR)

**Flow Capacity:** 66 SCFM @ 100 PSI supply pressure

#### ORDERING INFORMATION

Order No. 3007



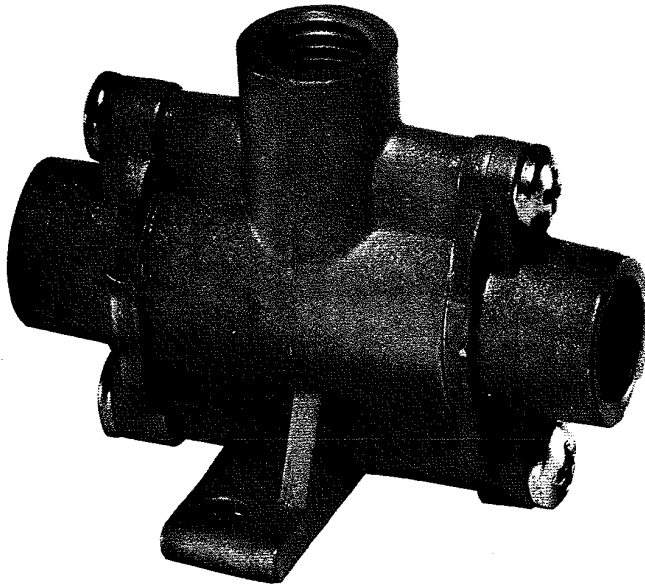


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## Kobel Shuttle or 2-Way Check Valve

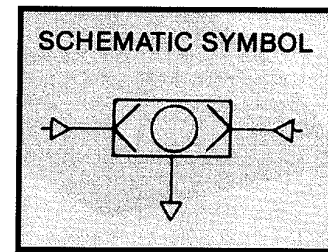
### 3009 Shuttle or 2-Way Check Valve

**HOBELT**

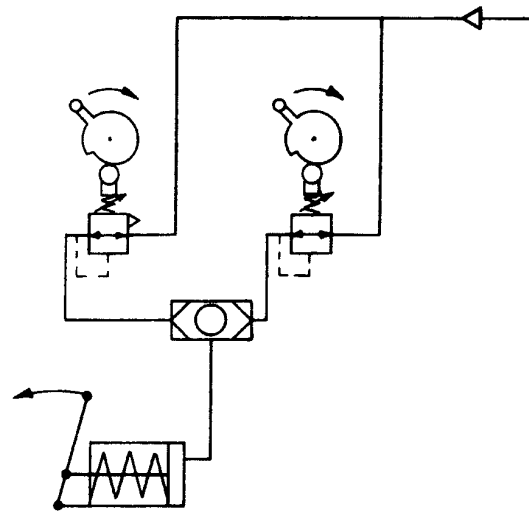


3009			
ITEM	QUANTITY	PART NO.	DESCRIPTION
1	2	3009-0001	End Cap
2	1	3009-0002	Body
3	1	3009-0003	Shuttle
4	2	1106-3001	Seat
5	4	1010-0808	Screw

A Repair Kit is available consisting of all seals. Order No. 3009-RK.



TYPICAL SHUTTLE VALVE APPLICATION



#### TWO-STATION REMOTE CONTROL OF ACTUATOR POSITIONER WITHOUT STATION SELECTOR CIRCUITRY

In this circuit, the station not in use must be left in the "off" position.

Note that a Shuttle Valve must be used. A simple "tee" would not suffice, as the operating signal from one pressure control head would pass out the exhaust port of the other.

#### DESCRIPTION

The 3009 Shuttle Valve directs air flow from one of two possible inputs to a single output, while preventing any air flow through the second input.

The 3009 consists of only one moving part, the shuttle. The shuttle shifts when the pressure on one input exceeds that on the other.

#### SPECIFICATIONS

**Weight:** .4 lbs. (192 g)

**Materials:** Die-cast silicon bronze and stainless steel

**Operating Temperature Range:** -40°C to +90°C

**Pipe Port Size:** 1/4" NPT

**Flow Capacity:** 1/4" Orifice Equivalent

**Maximum Operating Pressure:** 200 PSI (13.79 BAR)

**Important:** Shuttle valves must be mounted horizontally.

#### ORDERING INFORMATION

Order No. 3009



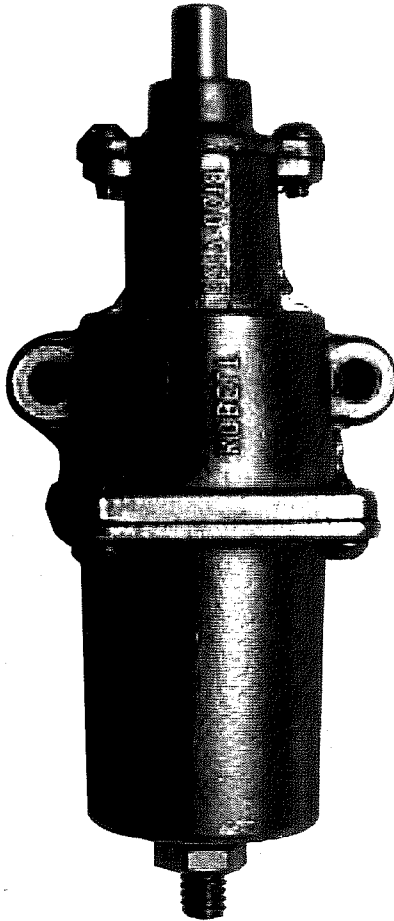
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# HUMCO ENGINE CONTROLS

## Kobel Self-Relieving Air Pressure Regulating Valve

**KOBELT**

### Model 3217 Compensating Self-Relieving Air Pressure Regulating Valve



**DESCRIPTION**

The 3217 is a mechanically actuated, sub-plate mounted regulating valve. It is both compensating and self-relieving, with an adjustable spring for setting the valve working pressure range. Movement of the spool stem into the valve produces a proportional output pressure, within the working range of the valve.

**Weight:** 1.70 lbs. (0.78 kg.)

**Materials:** Die-cast silicon bronze and stainless steel hardware.

**Maximum Supply Pressure:** 250 PSI (17.24 BAR)

**Operating Temperature Range:** -40°C to +90°C

**Spool Stem Travel:** 0.25" (6 mm.)

**Hysteresis:** 2 PSI

**Sub-plate Port:** 1/8"

**APPLICATIONS**

- Used mainly in Kobelt pressure control heads and dual-function control heads for accurate control of throttle actuators, positioner actuators and air-applied brakes.
- Used anywhere an accurate air pressure is required.

**ORDERING INFORMATION**

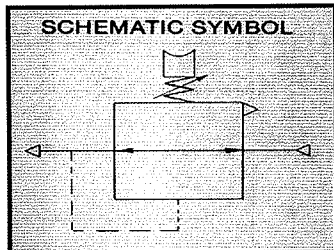
The standard 3217 is supplied in the following Model Designation Order Codes:

- N - 0-60 PSI
- P - 0-80 PSI
- R - 0-100 PSI
- S - 0-120 PSI
- T - 10-60 PSI
- U - 10-80 PSI
- W - 10-100 PSI
- X - 10-120 PSI

To order, state model number 3217 followed by the desired Model Designation Order Code.

**Example:** Standard 3217 with 0-60 PSI pressure range. Order 3217-N.

Other pressure ranges available upon request.

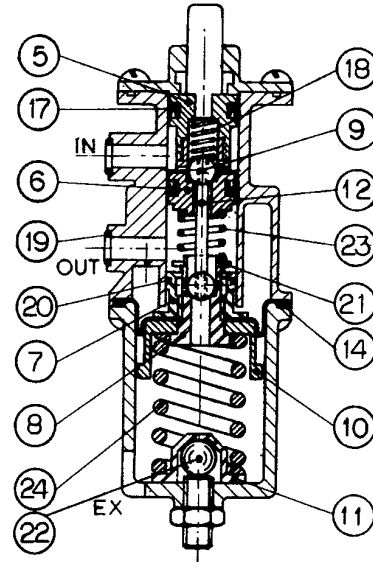
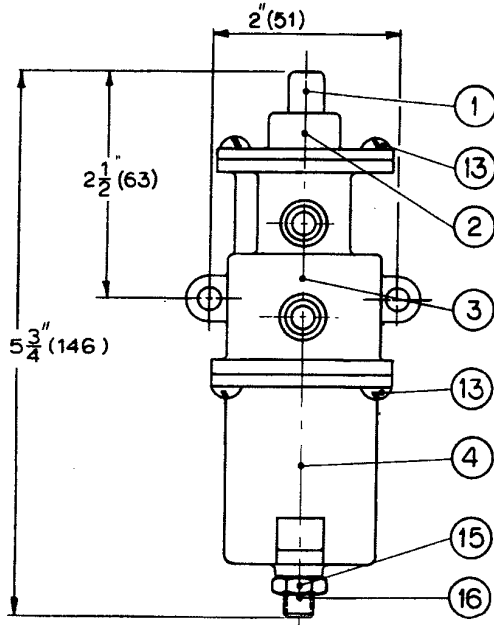




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# HUMCO ENGINE CONTROLS

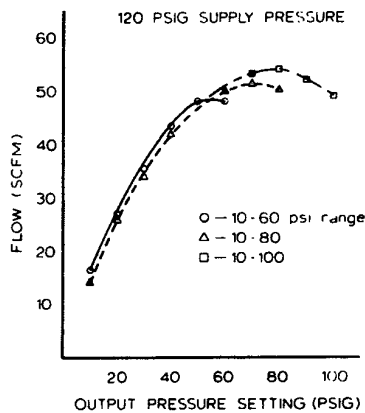
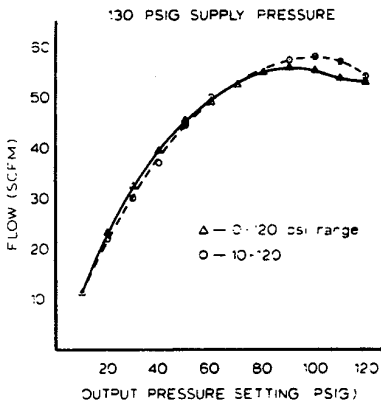
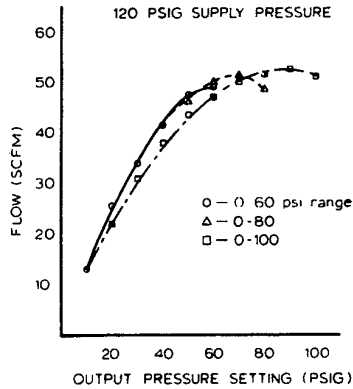
## Kobelt Self-Relieving Air Pressure Regulating Valve



**KOBELT**

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OUTPUT PRESSURE SETTING VS. FLOW



ITEM	QTY	PART NO.	DESCRIPTION
1	1	3217-0001	Spool Stem
2	1	3217-0002	End Cap
3	1	3217-0003	Valve Body (Upper Half)
4	1	3217-0004	Valve Body (Lower Half)
5	1	3217-0005	Upper Half Spool
6	1	3217-0006	Lower Half Spool
7	1	3217-0007	Piston Nut
8	1	3217-0008	Piston Keeper
9	2	3217-0009	Ball
10	1	3217-0010	Piston
11	1	3217-0011	Spring Retainer
12	1	3217-0012	Ball Stem
13	8	1010-0806	Round Head Screw
14	1	1104-2001	Diaphragm
15	1	1022-0211	Jam Nut
16	1	1016-1116	Set Screw
17	2	1102-0005	"U" Cup
18	1	1201-0004	Spring
19	2	1101-0010	"O" Ring
20	1	1101-0016	"O" Ring
21	1	1023-0242	Washer
22	1	1301-0010	Ball
23	1	1201-0005	Spring
24*	1	1201-0007	Spring 60 PSI (Silver)
24*	1	1201-0006	Spring 80 PSI (Black)
24*	1	1201-0008	Spring 100 PSI (Blue)
24*	1	1201-0015	Spring 120 PSI (Red)

\*Optional, depending on pressure configuration.

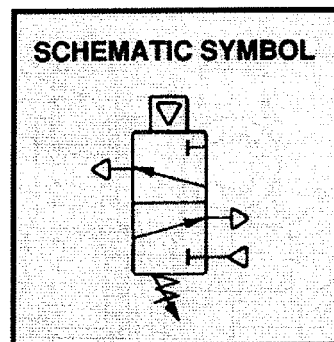
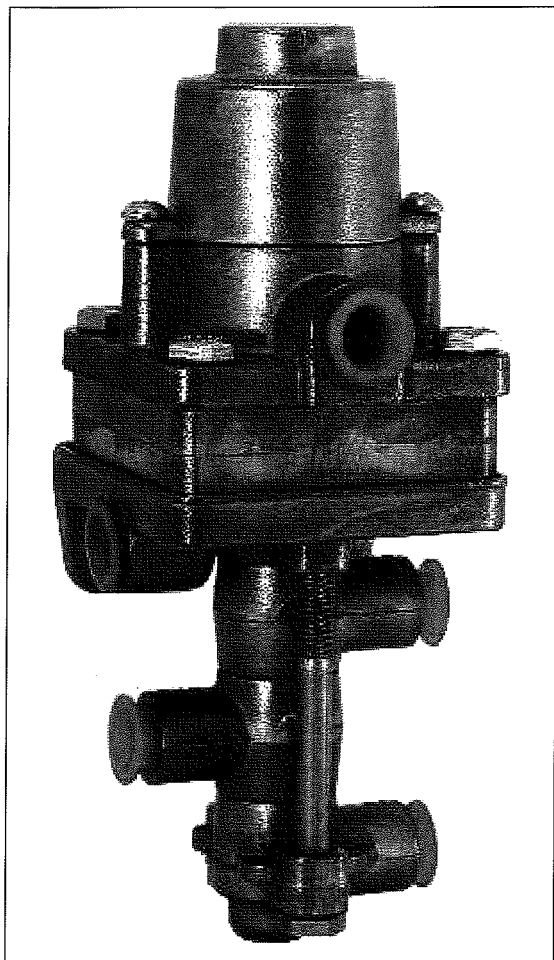
A Repair Kit is available, consisting of all seals and gaskets.  
Order No. 3217-RK.



## Kobel Adjustable Relay Valve

***HOBELT***

### 3324 Normally Closed Adjustable Relay Valve 1/4" NPT



This valve is also available with dual piloting on special request.

#### SPECIFICATIONS

**Weight:** 3.5 lbs. (1.6 kg)

**Materials:** Die-cast silicon bronze and stainless steel hardware

**Maximum Supply Pressure:** 200 PSI (13.79 BAR)

**Maximum Pilot Pressure:** 700 PSI (48 BAR)

**Operating Temperature Range:** -40°C to +90°C

**Pipe Port Size:** 1/4" NPT

#### ORDERING INFORMATION

Model Designation Order Codes:

- A - Standard inlet cap
- B - With flow control inlet cap
- C - Heavy spring (40-120 PSI range)
- CC - Extra heavy spring (100-160 PSI range)
- D - Light spring (25-60 PSI range)
- DD - Extra light spring (10-20 PSI range)
- E - Left hand model
- F - Right hand model

The Standard Model 3324 Relay Valve is supplied as follows:

1. Standard inlet cap
2. Extra heavy spring (100-160 PSI range)
3. Left or right hand model

To order, state Model Number, followed by desired Model Designation Order Codes listed above.

**Example:** To order a 3324 standard left hand model. Order No. 3324-ACCE.

#### DESCRIPTION

The 3324 is a normally closed, adjustable poppet-type valve which is controlled by a piston and spring arrangement. The spring keeps this valve in a closed position and pilot pressure will open the valve, allowing the air flow from the source of supply to the device actuated. The maximum pilot pressure is 700 PSI. The maximum control pressure (pneumatic) is 200 PSI. Many of these valves are used for clutch and throttle inter-locks in marine propulsion applications, where the gear box has to accumulate hydraulic pressure to lock up the forward or reverse clutch. After clutch lock up, the hydraulic pressure will open this valve, allowing the throttle signal to go through to the engine speed setting device.

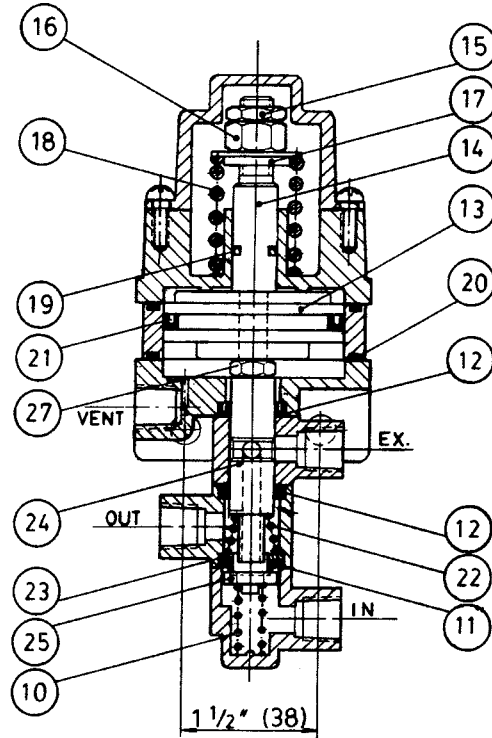
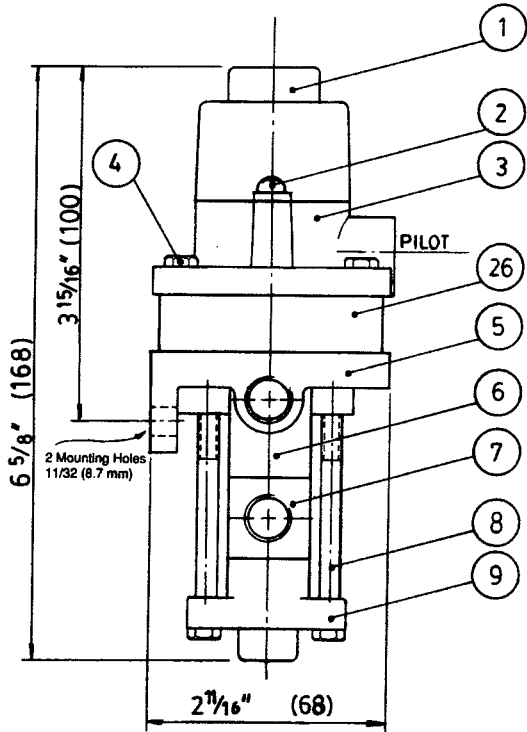


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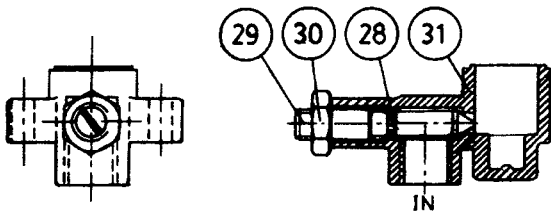
# HUMCO ENGINE CONTROLS

## Kobelt Adjustable Relay Valve

**KOBELT**



6



ALTERNATIVE INLET CAP WITH FLOW CONTROL

ALL DIMENSION IN INCHES (mm.)

A Repair Kit is available consisting of all seals.  
Order No. 3324-RK.

3324

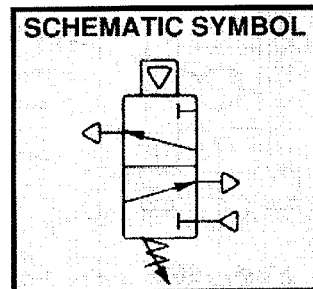
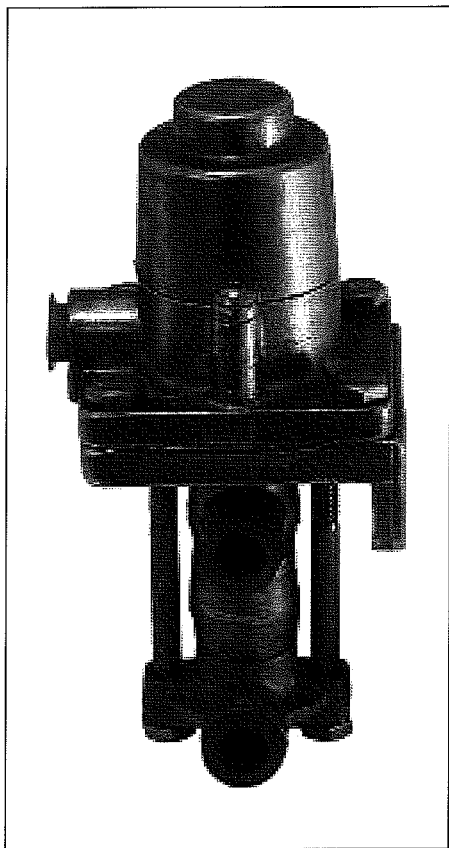
ITEM	QTY	PART NO.	DESCRIPTION
1	1	3326-0001	End Cap
2	2	1010-0806	Round Head Phillips Screw
3	1	3326-0002	Pilot Port
4	4	1001-1020	Hex Head Cap Screw
5	1	3325-0002	Vent Port (Left Hand)
5	1	3325-0013	Vent Port (Right Hand)
6	1	3325-0008	Exhaust Port
7	1	3325-0009	Outlet Port
8	2	1001-1044	Cap Screw
9	1	3325-0010	Inlet Cap
10	1	1201-0009	Spring
11	1	1101-0016	"O" Ring
12	2	1102-0005	"U" Cup
13	1	3326-0008	Piston
14	1	3326-0010	Spool
15	1	1022-0212	Jam Nut
16	1	1022-0112	Nut
17	1	3326-0005	Retainer
18 •	1	1201-0050	Spring (10-20 PSI)
18 •	1	1201-0010	Spring (25-60 PSI)
18 •	1	1201-0012	Spring (40-120 PSI)
18	1	1201-0030	Spring (100-160 PSI)
19	1	1102-1001	"U" Cup
20	2	1101-0139	"O" Ring
21	1	1102-0021	"U" Cup
22	1	1201-0016	Spring
23	1	3804-0003	Seat
24	1	3326-0007	Spool
25	1	3804-0004	Poppet
26	1	3326-0009	Spacer
27	1	1022-0261	Jam Nut
28 •	1	1101-0008	"O" Ring
29 •	1	3325-0011	Needle
30 •	1	1022-0262	Jam Nut
31 •	1	3325-0012	Inlet Cap

• Optional, depending on model configuration.

## Kobelt Adjustable Air Pilot Relay Valve

**HOBELT**

### 3326 Normally Closed Adjustable Air Pilot Relay Valve 1/4" NPT



#### SPECIFICATIONS

**Weight:** 2.4 lbs. (1.09 kg)

**Materials:** Die-cast silicon bronze and stainless steel hardware

**Maximum Supply Pressure:** 200 PSI (13.79 BAR)

**Maximum Pilot Pressure:** 700 PSI (48 BAR)

**Operating Temperature Range:** -40°C to +90°C

**Pipe Port Size:** 1/4" NPT

#### ORDERING INFORMATION

Model Designation Order Codes:

- A - Standard inlet cap
- B - With flow control inlet cap
- C - Heavy spring (40-120 PSI range)
- D - Light spring (25-60 PSI range)
- DD - Extra light spring (10-20 PSI range)
- E - Left hand model (as shown in drawing)
- F - Right hand model

The Standard Model 3326 Relay Valve is supplied as follows:

1. Standard inlet cap
2. Heavy spring (40-120 PSI range)
3. Left or right hand model

To order, state Model Number, followed by desired Model Designation Order Codes listed above.

**Example:** To order a 3326 standard left hand model. Order No. 3326-ACE.

#### DESCRIPTION

The 3326 is a poppet-type, normally closed relay valve. The spring keeps this valve in a closed position. The supply line is blocked and the outgoing line is vented through the exhaust port. When air pressure enters the pilot port, the main spring is compressed. This will permit the supply air to flow through the out port and close the port to exhaust. Several spring ratings are available, up to 120 PSI. The valve lends itself extremely well for inter-locking and time-delay circuitry. Its all bronze and stainless steel construction will give many years of trouble-free service. This valve has a full flow, 1/4" capacity, without restrictions.

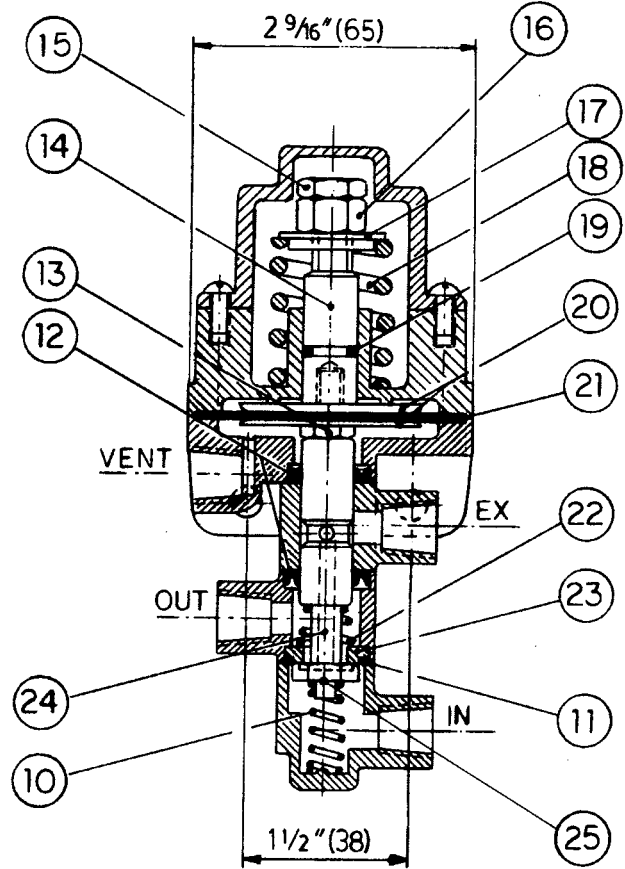
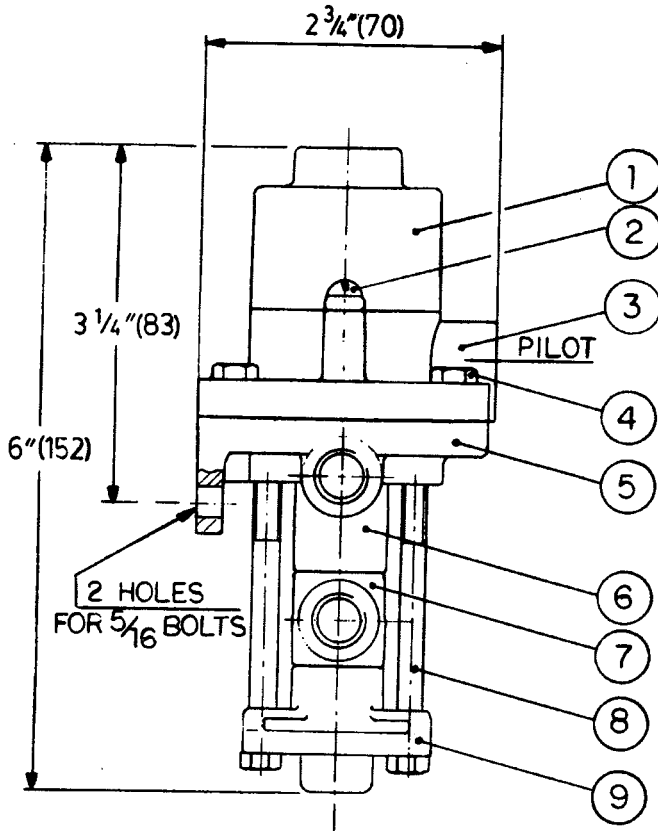
An optional inlet cap is available which is equipped with an adjustable flow control that permits the volume regulation of the supply air.



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# HUMCO ENGINE CONTROLS

## Kobel Adjustable Air Pilot Relay Valve

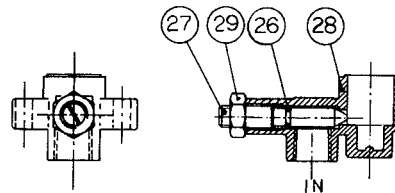


### 3326 RELAY VALVE

## KOBELT

A Repair Kit is available, consisting of all seals and gaskets. Order No. 3326-RK.

ITEM	QTY	PART NO.	DESCRIPTION
1	1	3326-0001	End Cap
2	2	1010-0806	Round Head Screw
3	1	3326-0002	Pilot Port
4	4	1101-1012	Hex Head Screw
5	1	3325-0002	Vent Port (Left Hand)
5	1	3325-0013	Vent Port (Right Hand)
6	1	3325-0008	Exhaust Port
7	1	3325-0009	Outlet Port
8	2	1001-1044	Hex Head Screw
9	1	3325-0010	Inlet Cap
10	1	1201-0009	Spring
11	1	1101-0016	"O" Ring
12	2	1102-0005	"U" Cup
13	1	1001-1010	Hex Head Screw
14	1	3326-0004	Spool
15	1	1022-0212	Jam Nut
16	1	1022-0112	Nut
17	1	3326-0005	Retainer
18 •	1	1201-0010	Spring (25-60 PSI)



ALTERNATIVE INLET CAP WITH FLOW CONTROL  
REPLACES ITEM 9.  
ALL DIMENSIONS IN INCHES (mm.)

ITEM	QTY	PART NO.	DESCRIPTION
18 •	1	1201-0050	Spring (10-20 PSI)
18	1	1201-0012	Spring (40-120 PSI)
19	1	1101-0012	"O" Ring
20	2	3326-0006	Washer
21	1	1105-2002	Diaphragm
22	1	1201-0016	Spring
23	1	3804-0003	Seat
24	1	3326-0007	Spool
25	1	3804-0004	Puppet
26 •	1	1101-0008	"O" Ring
27 •	1	3325-0011	Needle
28 •	1	3325-0012	Inlet Cap
29 •	1	1022-0262	Jam Nut

• Optional, depending on model configuration.



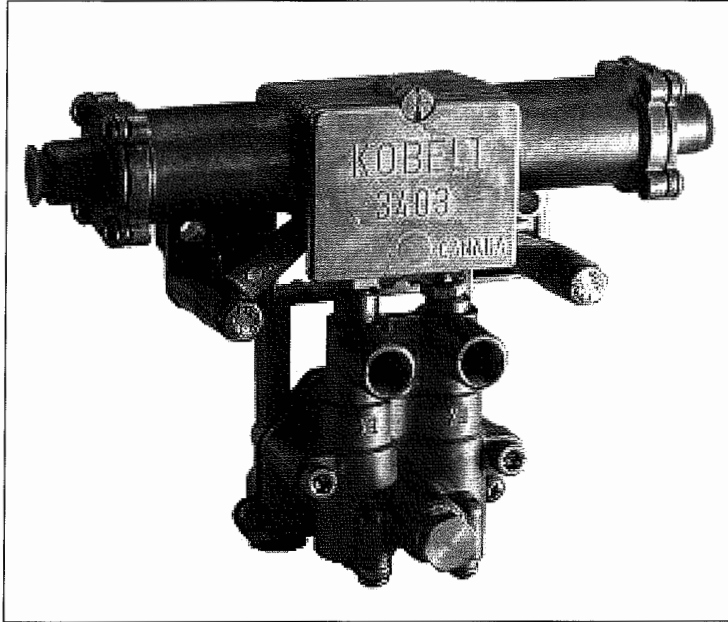
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# HUMCO ENGINE CONTROLS

## Kobelc 4-Way Air Pilot Directional Control Valve

**KOBELC**

### Model 3403 2-Position, 4-Way Air Pilot Directional Control Valve 1/4" NPT

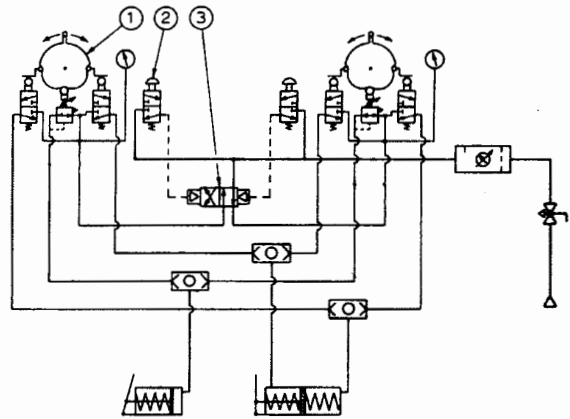


**ORDERING INFORMATION**

Order No. 4204-A

**TYPICAL APPLICATION**

REMOTE STATION COMMAND TRANSFER



6

**DESCRIPTION**

The 3403 consists of a cylinder-cam actuated 2-position, 4-way poppet type valve. A momentary burst of pilot air pressure shifts the 4-way valve to direct the supply air to the chosen directional output.

**APPLICATIONS**

- Used in remote station command transfer
- Used in the remote control of double-acting cylinders, brakes and clutches
- Used whenever a 4-way, air pilot directional control valve is required

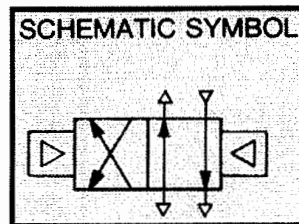
**SPECIFICATIONS**

- Weight:** 3.74 lbs. (1.7 kg)
- Materials:** Die-cast silicon bronze and stainless steel
- Maximum Input Pressure:** 200 PSI (13.79 BAR)
- Operating Temperature Range:** -40°C to +90°C
- Pipe Port Size:** 1/4" NPT
- Minimum Pilot Pressure:** 35 PSI
- Flow Capacity:** 78 SCFM @ 100 PSI

**APPLICATION DESCRIPTION**

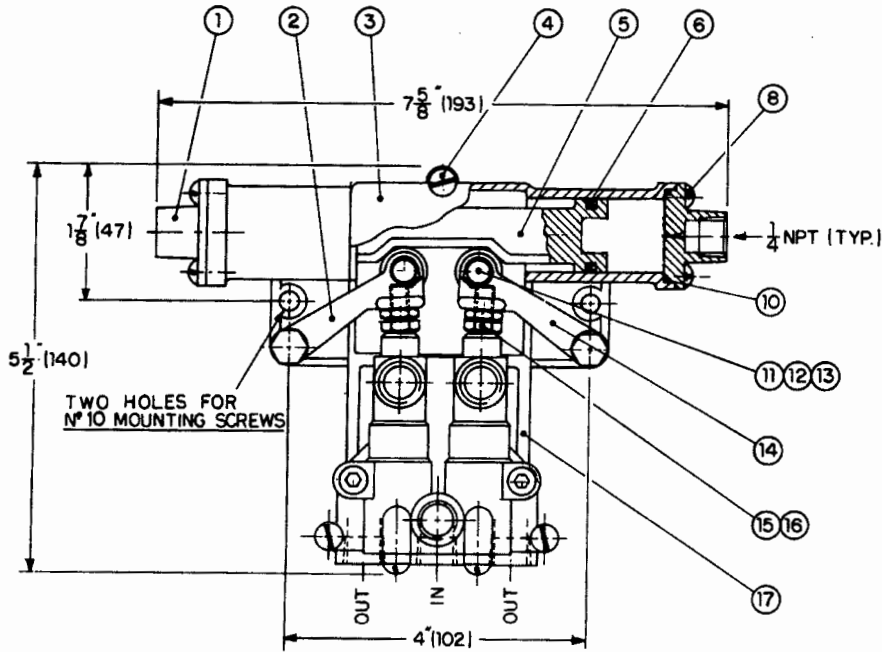
When the Push Button Valve #3517 (Item #2) is pressed, it sends a momentary air signal to the Directional Control Valve #3403 (Item #3). Supply air going to #3403 is then directed to the Dual Function Control Head #2544 (Item #1). The Control is now at Station #1.

When the Push Button Valve #3517 at Station #2 is pressed, it sends a momentary air signal to the Directional Control Valve #3403. Supply air going to Station #1 is automatically re-directed to the Dual Function Control Head #2544 at Station #2. The Control is now at Station #2.



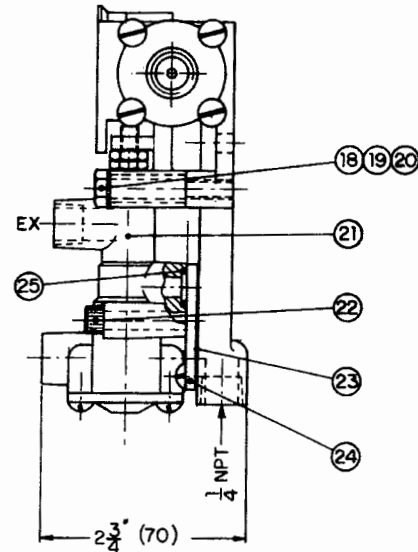
## Kobelc 4-Way Air Pilot Directional Control Valve

**KOBELC**



**3403**

ITEM	QTY	PART NO.	DESCRIPTION
1	2	3403-0007	End Cap
2	1	3403-0005	Roller Arm (Left Hand)
3	1	3403-0004	Cover
4	1	1003-0810	Screw
5	1	3403-0002	Pilot Piston
6	2	1102-0007	"U" Cup
8	11	1010-0806	Screw
10	2	1101-0024	"O" Ring
11	2	2542-0011	Pin
12	4	1029-1031	Snap Ring
13	2	2543-0009	Roller
14	1	3403-0006	Roller Arm (Right Hand)
15	2	1001-1008	Cap Screw
16	2	1022-0210	Nut
17	1	3403-0001	Frame
18	2	1001-1024	Cap Screw
19	2	1023-0210	Washer
20	2	3403-0009	Bushing
21	1	3804	4-Way Valve
22	2	1002-1028	Cap Screw
23	1	3609-0013	Gasket
24	1	3403-0003	Mounting Plate
25	3	1101-0012	"O" Ring



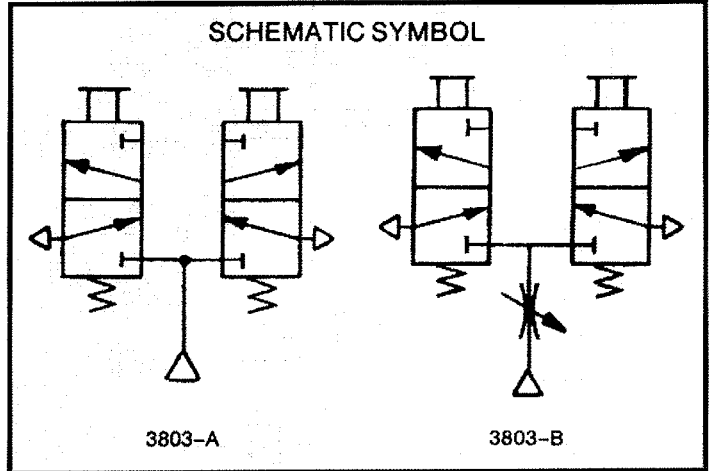
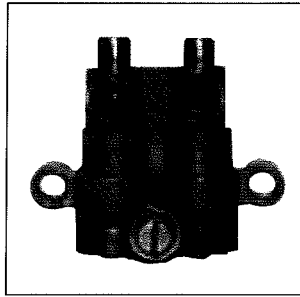
**A Repair Kit is available, consisting of all seals and gaskets. Order No. 3403-RK.**

ALL DIMENSIONS IN INCHES (mm.)

## Kobel Actuated Four-Way Block Mount Valve

**HOBELT**

# Model 3803 Mechanically Actuated Four-Way Block Mount Valve



**DESCRIPTION**

The 3803 is a mechanically actuated, sub-plate mounted, four-way directional control valve. It is a poppet type valve consisting of two normally closed three-way valves with a common supply port. Movement of the desired spool stem into the valve opens the chosen three-way valve and directs the air supply to the chosen directional output. An inlet flow control is available as an optional extra.

**SPECIFICATIONS**

- Weight:** 0.62 lbs. (0.28 kg)
- Materials:** Die-cast silicon bronze and stainless steel hardware
- Maximum Supply Pressure:** 250 PSI (17.24 BAR)
- Operating Temperature Range:** -40°C to +90°C
- Spool Stem Travel:** 0.175" (3.92 mm.)
- Recommended Sub-plate Port:** 1/8" NPT

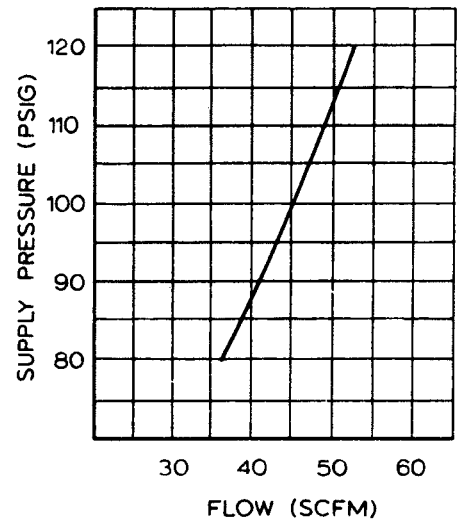
**APPLICATIONS**

- Used mainly in Kobelt dual-function control heads 2544 and 2545 as a directional control valve
- Used wherever a mechanically actuated, four-way directional control valve is required

**ORDERING INFORMATION**

3803	-	A	Standard Model
3803	-	B	With Flow Control

**SUPPLY PRESSURE VS. FLOW**





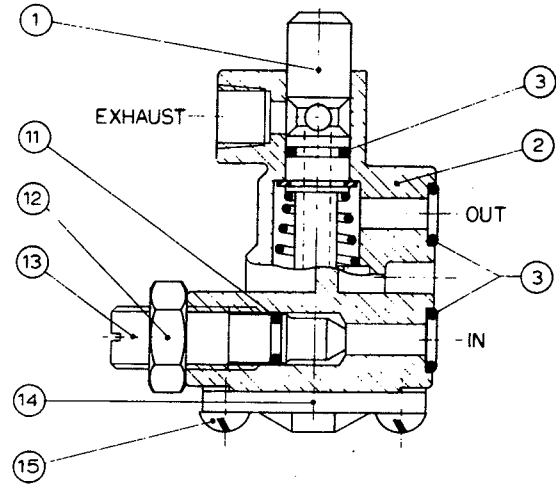
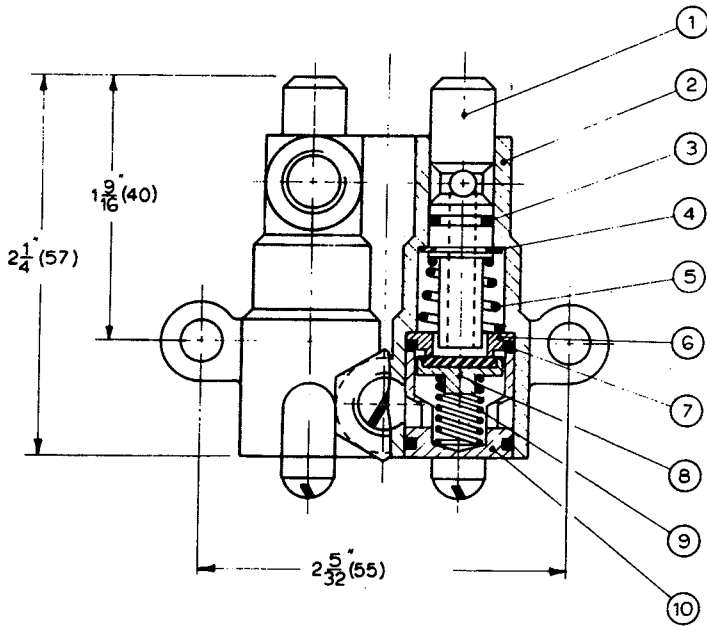
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# HUMCO ENGINE CONTROLS

## Kobel Actuated Four-Way Block Mount Valve

**KOBELT**

ALL DIMENSIONS IN INCHES (mm.)



### 3803

ITEM	QTY	PART NO.	DESCRIPTION
1	2	3803-0001	Spool
2	1	3803-0002	Body
3	5	1101-0010	"O" Ring
4	2	1029-2037	Snap Ring
5	2	1201-0013	Spring
6	2	3803-0003	Seat
7	4	1101-0014	"O" Ring
8	2	3803-0004	Poppet
9	2	1201-0004	Spring
10	2	3803-0005	Retainer
11	1	1101-0008	"O" Ring
12	1	1022-0262	Jam Nut
13	1	3803-0006	Needle
14	2	3803-0007	End Cap
15	4	1010-0806	Screw

A Repair Kit is available, consisting of all seals. Order No. 3803-RK.

6