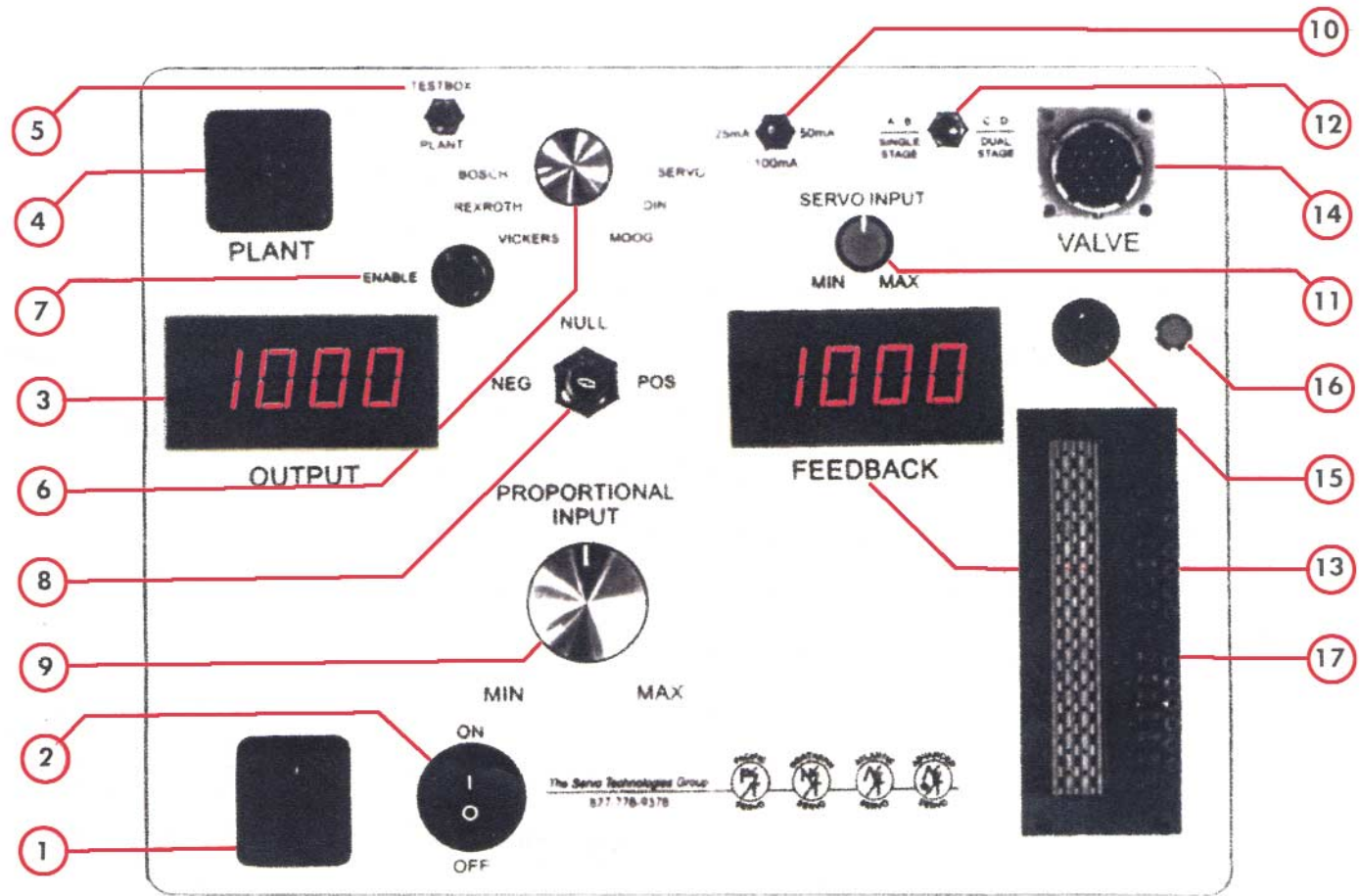




The Servo Technologies Group Test Box Instruction Manual





OBE 7 pin	BOSCH	REXROTH	VICKERS	MOOG	BOSCH DIN	SERVO	19 Pin Connect
A	(+) 24 vdc	(+) 24 vdc	(+) 15 vdc	(+) 15 vdc			N
B	0 volts	0 volts	(-) 15 vdc	(-) 15 vdc			P
C	feedback com	enable	N/C	0 vdc			R
D	(=/-) 10 vdc	(+/-) 10 vdc	(+) 24 vdc	(+/-) 10 vdc			S
E	signal common	signal common	common	common			T
F	(+/-) feedback	(+/-) feedback	0~10 vdc	(+/-)			U
G	earth ground	N/C	N/C	N/C			V
						Signal	C
						Common	E
						Common	J
						Signal	L
					(+) 15 vdc		A
					(+/-) 10 vdc		B
					Solenoid		D
					(+/-) 10 vdc		F
					(-) 15 vdc		G
					Signal		H
					Solenoid		K
					Signal		M

Controls, Indicators, and Connectors

1. AC Power Inlet with .63 Amp Fuse

- Uses a molded SVJ three prong AC power cord
- 0.63 amp time lag 5 x 20mm fuse
- When AC power connected, Bosch plant cable power is disconnected

2. AC Power Switch

- Apply AC power to test box

3. Command Output Meter

- Displays the command output signal going to the valve, DIN card, or servo

4. Bosch Plant Cable Connector

FOR OBE'S WITH BOSCH WIRING ONLY

- With plant cable disconnected from OBE, you can connect it to the test box and it will power up the unit without AC power
- Valve's with same wiring as Bosch OBE can also be connected (check chart)

5. Test Box/Plant Switch

- Plant mode allows you to view input signals on plant cable
- Test box mode switches all functions to test box

6. Selector Switch

- Allows user to select the different units the box can control

7. Rexroth Enable Switch

- With the selector switch in the Rexroth position, depressing this switch will enable the valve

8. Command Signal Selector Switch

- Allows you to select Negative, Positive, or No (Null) voltage signal to be applied to the proportional input pot

9. Proportional Input Pot

- Varies the amount of the input signal going to the valve, or DIN card, from 0 to +/- 10 volts

10. Servo Current Selector Switch

- Selects the max current going to the Servo Input level pot from 25mA, 50mA, 100mA

11. Servo Input Level Pot

- Controls the signal level from zero to max selected
- Signal is displayed on the command output meter
- **With no load connected, meter will display the max signal selected and pot will have no effect**

12. Servo / OBE Selector Switch

- When using the servo section of the test box, this switch controls which coils/ports are energized, i.e. A/B or C/D
- When using a DIN card, this switch selects the LVDT signal displayed, single stage cards (reads the pilot) or dual stage cards (reads the main)

13. Feedback Meter

- Displays the amount of feedback from the valve. **There is no feedback in the servo mode.**

14. Valve Output Connector

- This connector is set up to handle various cables required for the different valves:
 - OBE – Bosch, Rexroth, Vickers, and Moog six or seven pin connectors
 - DIN – Bosch
 - Rugged – Bosch
 - Servo – Numerous manufacturers

15. OBE Output Fuse

- A 2.5 Amp 5 x 20mm time lag fuse to protect the test box from a shorted OBE

16. Blown Fuse Indicator

- Red LED indicator is on when fuse is blown

17. Bosch DIN Card Connector

BOSCH DIN / RUGGED TEST PROCEDURES

This unit was designed to test Bosch DC valves that have single stage (pilot) or dual stage (pilot/main) LVDT's.

1. Make sure AC Power Switch (#2) is off.
2. Plug AC power cord into the AC Power Inlet (#1).
3. Place Command Signal Selector Switch (#8) in the null (zero) position.
4. Turn Proportional Input Pot (#9) fully counterclockwise to zero position.
5. Turn Selector Switch (#6) to DIN position.
6. Connect cable to Output Connector (#14) and the hydraulic valve.
7. Place Servo/OBE Selector Switch (#11) into the single or dual position.
8. Insert Bosch DIN card into Connector (#17).
9. Turn AC Power Switch (#2) on.
 - Command Output (#3) and Feedback (#13) meters will come on

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Bosch DIN / Rugged Test Procedures continued:

10. Place Command Signal Selector Switch (#8) to positive or negative position.
 - This applies power to the Proportional Input Pot (#9)
11. Slowly turn Proportional Input Pot (#9) clockwise.
 - This increases signal to the valve and will display on the Command Output Meter (#3).
 - If valve is functioning correctly, the Feedback Meter (#13) will follow the signal on the Command Output Meter (#3). **Signal may be reverse polarity. Tolerance - 0.1 volts.** Some cards have gain greater than one. In this instance the signal on the Command Output Meter (#3) will be less than the Feedback Meter (#13).
12. Turn Command Output Pot (#3) counterclockwise to zero and place Signal Selector Switch (#8) in the opposite position and repeat item #9. After test is complete, turn Command Output Pot (#3) counterclockwise to zero. Turn AC Power Switch (#2) off and disconnect valve and remove DIN card.

OBE TEST PROCEDURES

To test valves with on board electronics (OBE). Check the front page of this guide or inside the lid of the test box for the various electrical connections and corresponding selector switch positions. Valve manufacturers have valves that are electronically the same as other manufacturers. Example: Vickers has some valves that are wired the same as Rexroth and Bosch and use the same power. always check the label on the valve or the data sheet for correct hook up.

1. Make sure AC Power Switch (#2) is off.
2. Plug AC power cord into the AC Power Inlet (#1).
3. Place Command Signal Selector Switch (#8) in the null (zero) position.
4. Turn Proportional Input Pot (#9) fully counterclockwise to zero position.
5. Turn Selector Switch (#6) to the proper position for the valve under test.
6. Connect cable to Output Connector (#14) and to the hydraulic valve.
7. Turn Power Switch (#2) on.
 - Command Output (#3) and Feedback (#13) meters will come on
 - If you are testing a Rexroth valve that needs an enable signal, press the Rexroth Enable Switch (#7) at this time

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OBE Test Procedures continued:

8. Place Command Signal Selector Switch (#8) to positive or negative position.
 - This applies power to the Proportional Input Pot (#9)
9. Slowly turn Proportional Input Pot (#9) clockwise.
 - The signal going to the valve will increase and display on the Command Output Meter (#3).
 - If valve is functioning correctly, the Feedback Meter (#13) will follow the signal on the Command Output Meter (#3). **Tolerance of - 0.1 volts.**
10. Turn Command Output Pot (#3) counterclockwise to zero and place Signal Selector Switch (#8) in the opposite position and repeat item #9. After test is complete, turn Command Output Pot (#3) counterclockwise to zero. Turn AC Power Switch (#2) off and disconnect valve.

SERVO VALVE TEST PROCEDURES

Test Box will test a wide variety of servo valves from different manufacturers.

1. Make sure AC Power Switch (#2) is off.
2. Plug AC power cord into the AC Power Inlet (#1).
3. Turn Selector Switch (#6) to Servo position.
4. Place Servo Current Selector switch (#10) in desired position – 25mA, 50mA, or 100mA.
5. Turn Servo Input Pot (#11) fully counterclockwise to zero position.
6. Place Servo / OBE Selector Switch (#12) to the A-B or C-D position.
7. Connect cable to Output Connector (#14) and to the hydraulic valve.
8. Turn AC Power Switch (#2) on.
 - Command Output (#3) and Feedback (#13) meters will display
9. Slowly turn Servo Input Pot (#11) clockwise.
 - This increases signal to the valve and will display on the Command Output Meter (#3)
 - 0 to 25mA will display as 0.00 to 2.50
 - 0 to 50mA will display as 0.00 to 5.00
 - 0 to 100mA will display as 0.00 to 10.00

There will not be a feedback signal
for this test
10. Turn Servo Input Pot (#11) counterclockwise to zero and place Servo/OBE Selector Switch (#12) in the opposite position and repeat step #9. After test is completed, turn Servo/OBE Selector Switch (#11) counterclockwise to zero. Turn AC Power Switch (#2) off and disconnect valve.

TEST BOX AND OPTIONAL ACCESSORIES

Test Box with 19 pin connector

Test Box w/ 19 pin connector	P/N STG-TB-B19	\$2500.00
7 Pin OBE Cable	P/N STG-TB-C-B19-B7	\$135.00
4 Pin Servo Cable	P/N STG-TB-C-B19-M	\$135.00
DIN Cable	P/N STG-TB-B19-C-BD	\$135.00
7 Pin Rugged Cable	P/N STG-TB-B19-C-BR7	\$135.00
Unit shipped with power cord, OBE cable, and instruction manual.		

Test Box DIN only with 7 pin connector

Test Box DIN only w/ 7 pin connector	P/N STG-TB-B19	\$2500.00
7 Pin OBE Cable	P/N STG-TB-C-B19-B7	\$135.00
4 Pin Servo Cable	P/N STG-TB-C-B19-M	\$135.00
DIN Cable	P/N STG-TB-B19-C-BD	\$135.00
7 Pin Rugged Cable	P/N STG-TB-B19-C-BR7	\$135.00
Unit shipped with power cord, OBE cable, and instruction manual.		

All cables supplied in six foot lengths. Longer cable lengths available upon request with an increased price of ten dollars per five foot increments.

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE