SERVICE BULLETIN

M-870A (Replaces Service Bulletin M-870) May 10, 1983

NEW VALVE GUIDES FOR XL SERIES
TRANSMISSION MAINSHAFT SHIMS
IGNITION MODULE/SENSOR CONNECTORS

VALVE GUIDES

New style shoulderless intake and exhaust valve guides, Figure 1, are being incorporated on the XL series 1000cc engines, beginning with crankcase number 783 101037. New, flat, lower spring collars, Part No. 18220-83, new, longer, inner springs, Part No. 18204-83, and new, longer, outer springs, Part No. 18203-83 are also being incorporated at the same time, to provide increased spring tension.

The new style valve guides will also be used for service replacement of the old style, shouldered guides on all XL series 1000cc engines as shown in Table 1.

When new style valve guides are used to replace the old style guides, it is not necessary to replace the old lower spring collar, old inner spring, old outer spring, upper spring collar, or the valve keys. Refer to the current XL Parts Catalog for old part number information.

The new, flat, lower spring collars, Part No. 18220-83, the new, longer, inner springs, Part No. 18204-83 and new, longer outer springs, Part No. 18203-83 can be used only with the new style shoulderless valve guides.

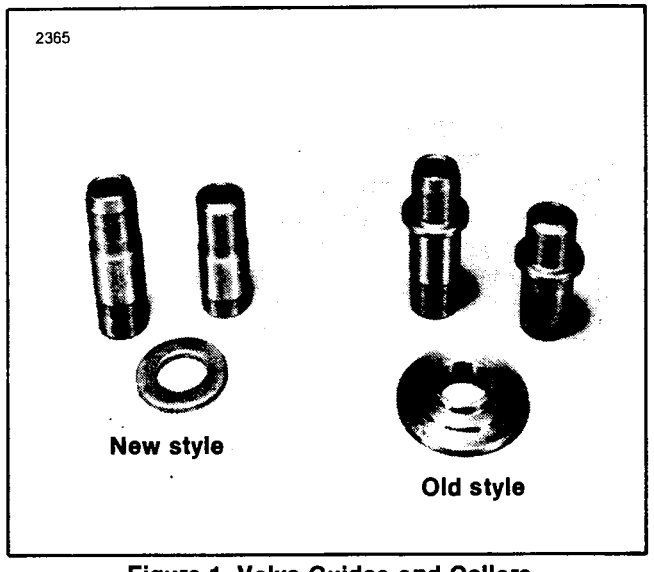

Figure 1. Valve Guides and Collars

If replacement valve springs or lower spring collars are needed on models with old style, shouldered guides, the old springs or spring collar part numbers should be ordered from the XL Parts Catalog.

NOTE

To prevent possible mismatch of new springs with the old shouldered guides, or possible mixing of old and new springs, the new springs are identified with red or orange paint on several coils.

New Valve Spring Data

Inner Spring
- Part No. — 18204-83
- Free Length — 1-11/32 in.
- Spring Load
  - Valve Closed — 20.9 - 29.1 lbs. @ 1-13/64 in.
  - Valve Open — 79.7 - 90.3 lbs. @ 25/32 in.

Outer Spring
- Part No. — 18203-83
- Free Length — 1-9/16 in.
- Spring Load
  - Valve Closed — 52-67 lbs. @ 1-3/8 in.
  - Valve Open — 171.6 - 194.4 lbs. @ 31/32 in.

Because the new style valve guides do not have a shoulder, a special two-piece VALVE GUIDE DRIVER SET, Part No. HD-33871, Figure 2, must be used for guide installation to obtain the proper installed height. See Figure 3.

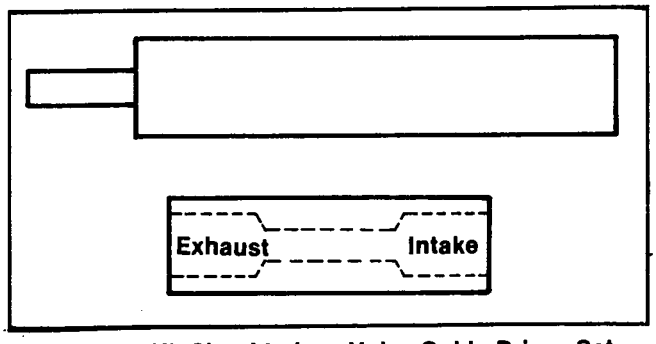

Figure 2. XL Shoulderless Valve Guide Driver Set

ROUTING:	SERVICE MANAGER	SALES MANAGER	PARTS MANAGER	CHIEF MECHANIC	MECHANIC NO. 1	MECHANIC NO. 2	MECHANIC NO. 3	MECHANIC NO. 4	RETURN THIS TO:
INITIAL HERE									

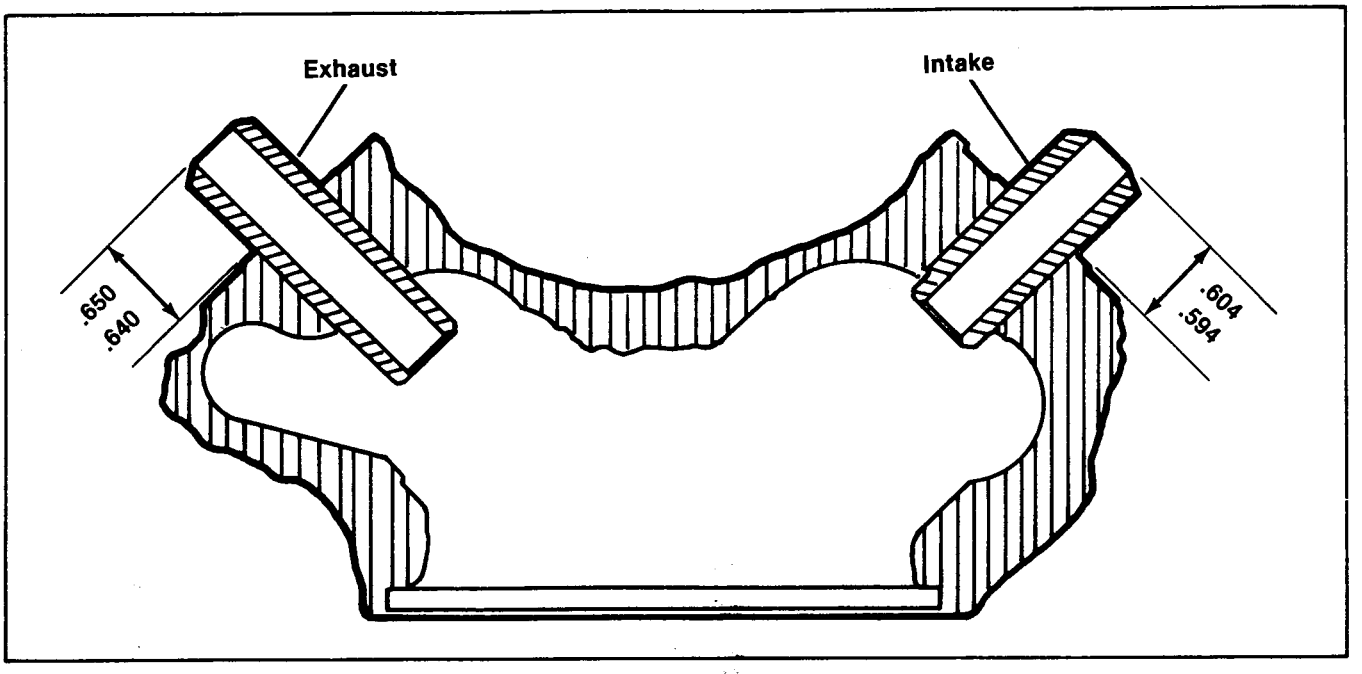

Figure 3. Valve Guide Projection

New style			Old style	
Part No.	**Size**	**Type**	**Part No.**	**Size**
18170—57B	Std.	Ex.	18170—57A	Std.
18172—57B	.001 O.S.	Ex.	18172—57A	.001 O.S.
18171—57B	.002 O.S.	Ex.	18171—57A	.002 O.S.
18168—79A	.004 O.S.	Ex.	18168—79	.004 O.S.
18176—57C	Std.	In.	18176—57B	Std.
18179—57C	.001 O.S.	In.	18179—57B	.001 O.S.
18180—57C	.002 O.S.	In.	18180—57B	.002 O.S.
18191—79A	.004 O.S.	In.	18191—79	.004 O.S.

Table 1. Valve Guide Application Data

PROCEDURE (Figure 4)

1. After removing the valve keys, valves, collars and springs, heat the cylinder head and drive the old valve guides from the head with a hammer and drift pin.

2. Install the new valve guides using VALVE GUIDE DRIVER SET, Part No. HD-33871. Place the correct end of the tool over the guide and drive the guide into the head until the tool bottoms on the head.

CAUTION

Excessive force may damage the cylinder head or guides.

3. Reassemble the valve train as described in the current XL Service Manual.

NOTE

New lower collars and new valve springs must be used together to properly locate the valve springs and prevent the possibility of coil bind.

TRANSMISSION MAINSHAFT THRUST WASHERS

A production change, modifying the method of controlling transmission mainshaft end play, is being incorporated on late 1983 XL series motorcycles. The new style thrust washer, Figure 5, is thicker than the old style thrust washer, allowing the use of one washer where two were previously required. Also the tang used to prevent full rotation of the washer has been eliminated as has been the rollpin in the crankcase, Figure 6.

The new thrust washers are available in four thicknesses; 0.098 inch, 0.107 inch, 0.116 inch, and 0.125 inch. A single new washer can replace the earlier style thrust washers if the end play is great enough to require the use of the new thicker washers.

The early style thrust washers (0.030 - 0.085) with tangs will be available for service through Parts and Accessories for those early models requiring thinner washers.

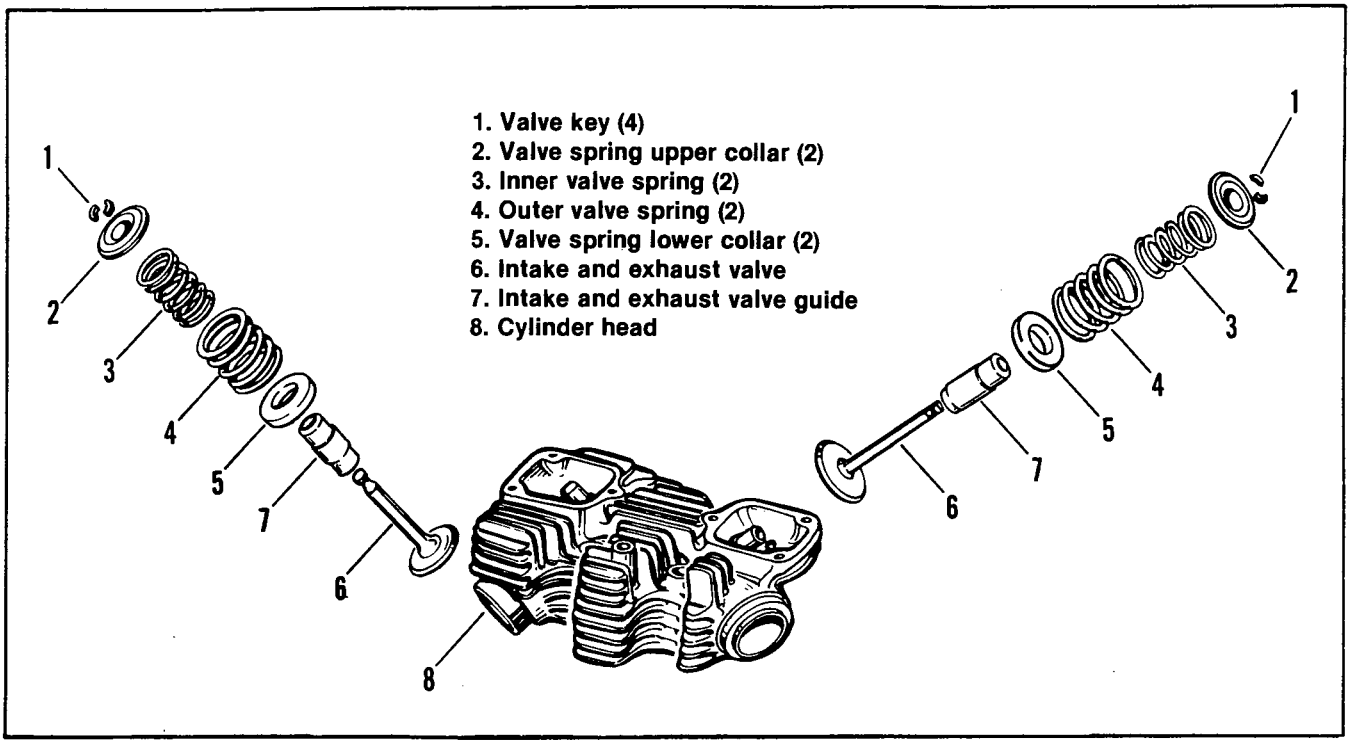

Figure 4. Valve Train Components

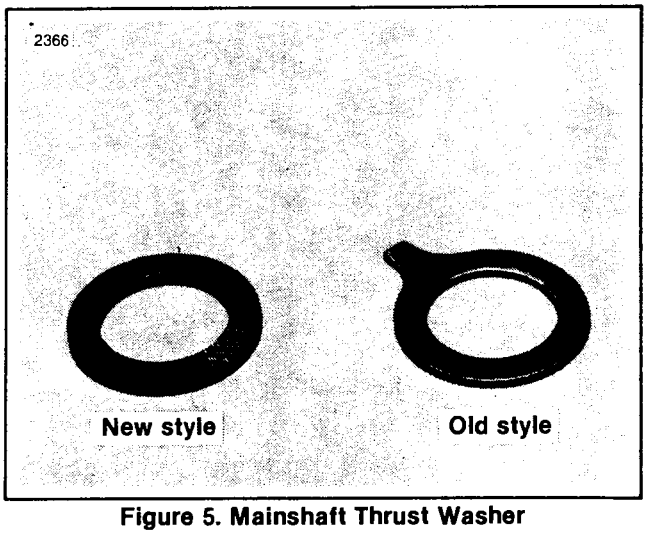

Figure 5. Mainshaft Thrust Washer

same, 0.003 inch minimum with preload to 0.020 inch unloaded.

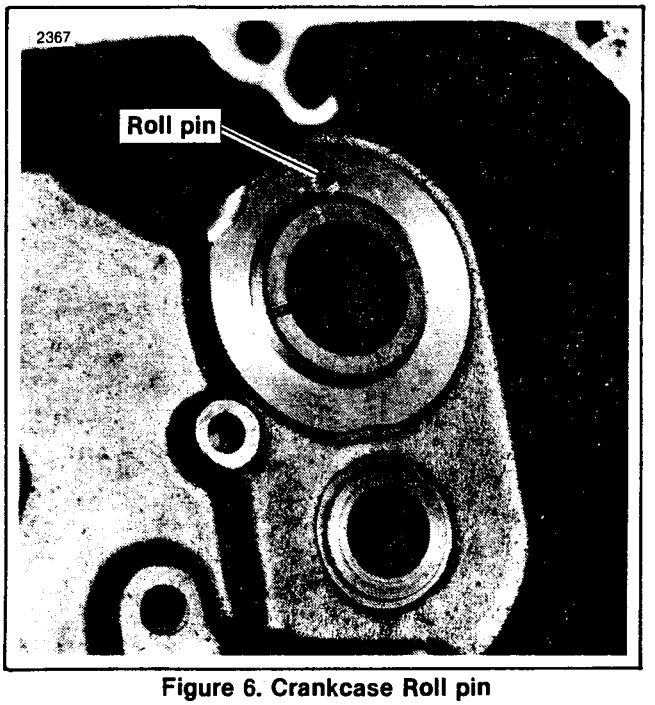

Figure 6. Crankcase Roll pin

IGNITION MODULES/SENSORS

Late 1983 XL ignition modules Part No. 32410—84 and sensor assemblies Part No. 32400—80 are being manufactured with rubber rather than plastic connectors. This change is being made to improve component service life and to avoid possible separation of connectors in the field. When servicing early 1983 ignition systems, always check the module/sensor connectors for tight fit.

The late 1983 XL modules and sensors will interchange with the early 1983 XL modules and sensors, but will require replacement of the mating connector half if only one component is replaced. Rubber receptacles with 2 sockets and 1 pin or rubber plugs with 2 pins and 1 socket, (Figure 8) are available through Parts and Accessories.

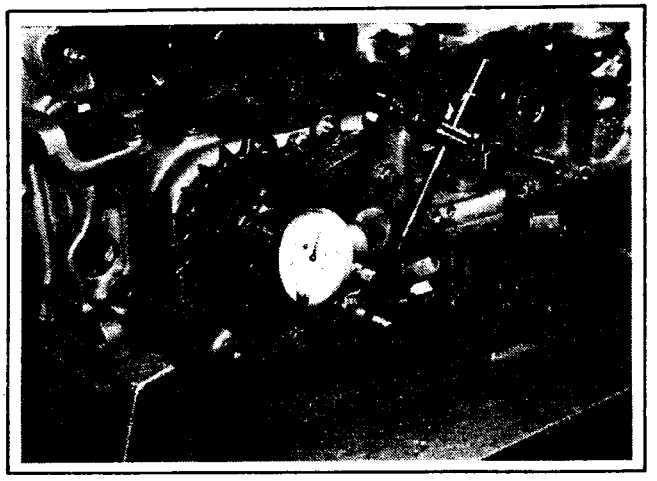

Figure 7. Checking Mainshaft Endplay

Component	Part No.	Material	Used On
Module connector	72051—77	Rubber	Late 83
Sensor connector	74521—77	Rubber	Late 83
Module connector	72051—83	Plastic	Early 83
Sensor connector	74521—83	Plastic	Early 83

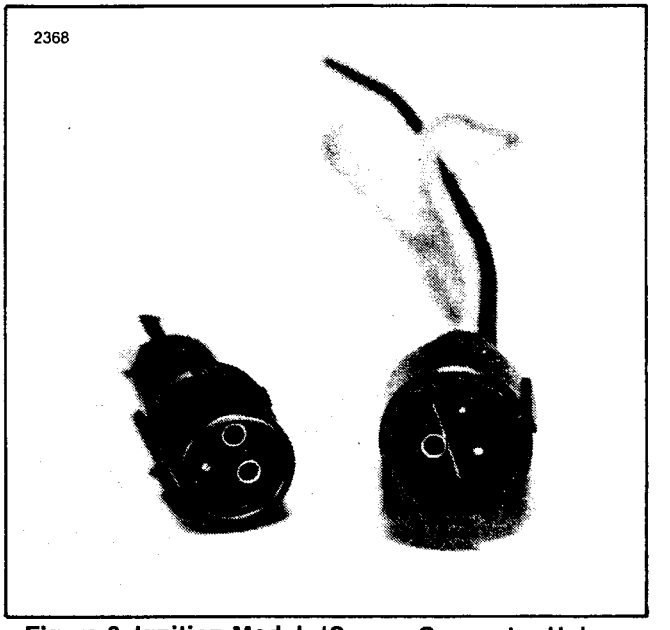

Figure 8. Ignition Module/Sensor Connector Halves

NOTE

When servicing early 1983 XL ignition system components, always replace the ty wrap used to secure the module and sensor plastic connector halves.