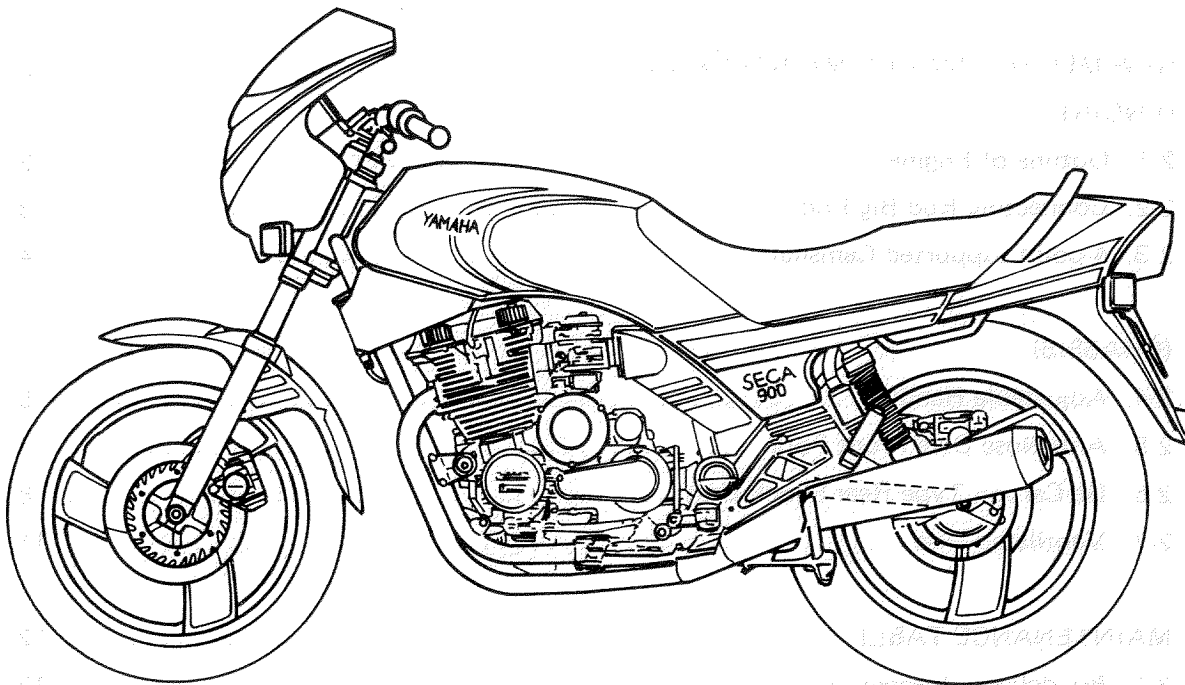


1. GENERAL INFORMATION



(ENGINE)

4-point supported camshaft
Y.I.C.S.
900 cm³ displacement engine with oil cooler
Primary drive gear on crankshaft balancer
High torque at the low/mid range engine rpm

(CHASSIS)

Air assisted front fork with equalizer
Anti nose dive fork
Front fork brace
Ventilated disc
Forged aluminum foot peg/change pedal
De Carbon type rear shock with pre-load/
damper adjuster
Forged aluminum handle bar with
adjustable mechanism
Sports fairing

(ELECTRICAL)

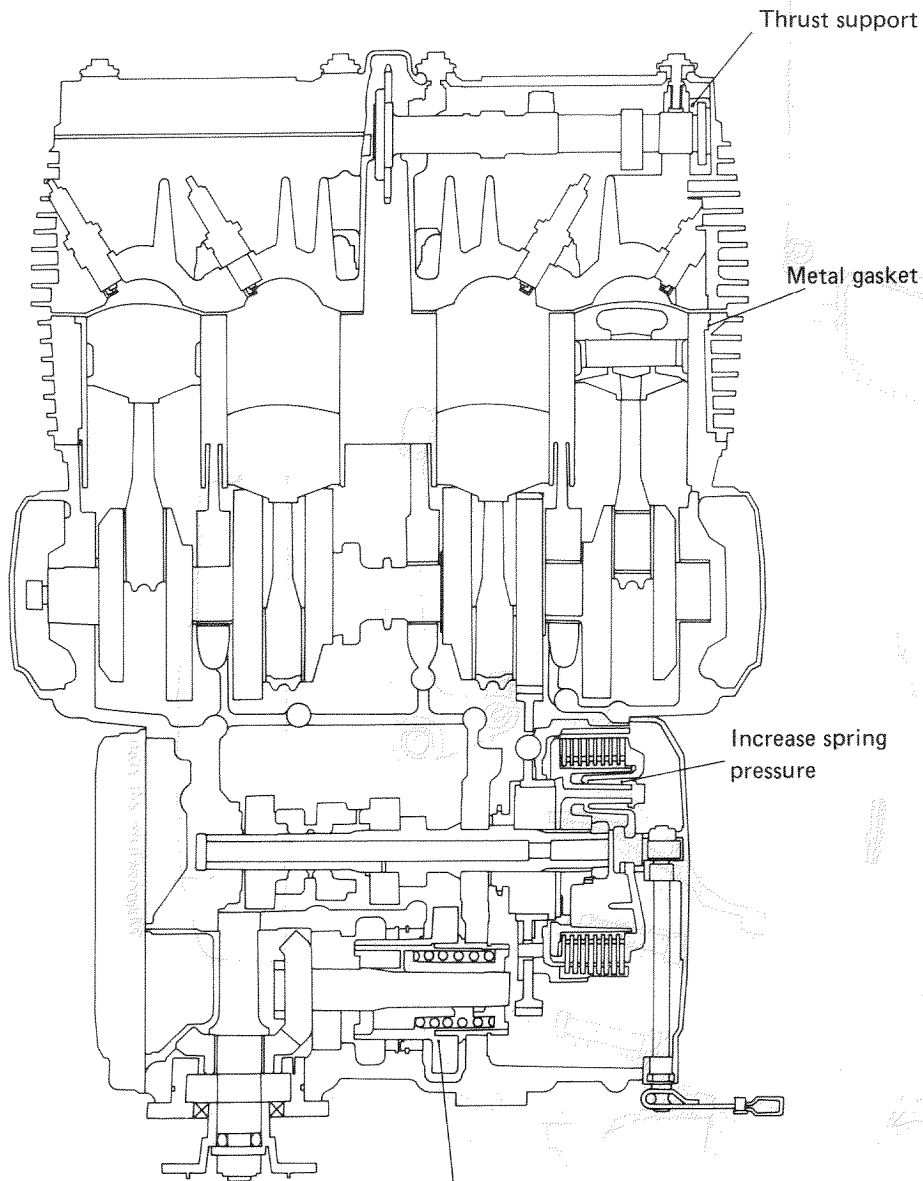
Quartz halogen headlight
Self-cancelling flasher light (except Germany)
Side stand safety (for Canada)
T.C. Ignition

2. NEW MECHANISM AND MAINTENANCE

(ENGINE)

2-1. Outline of Engine

Rubber mounted head cover (reduce noise)

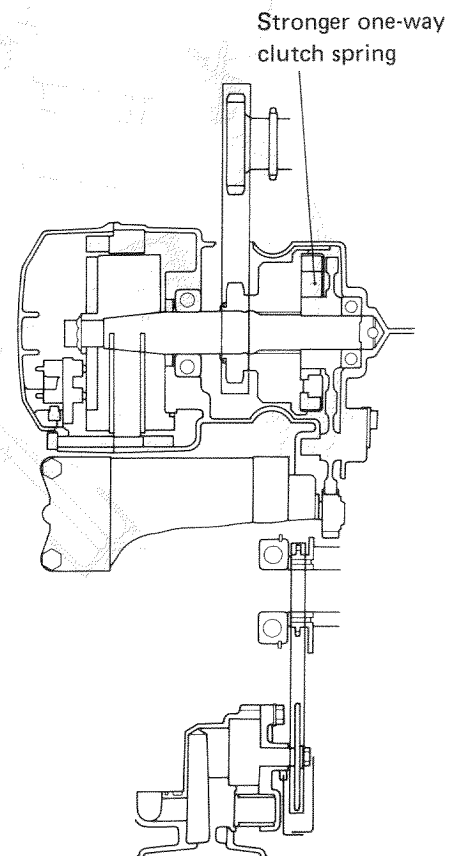
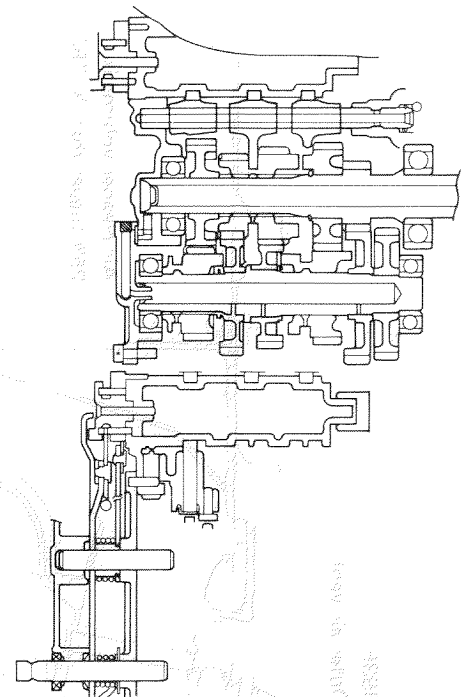


Spring pressure is bigger than XJ750

Transmission is same as XJ650 turbo

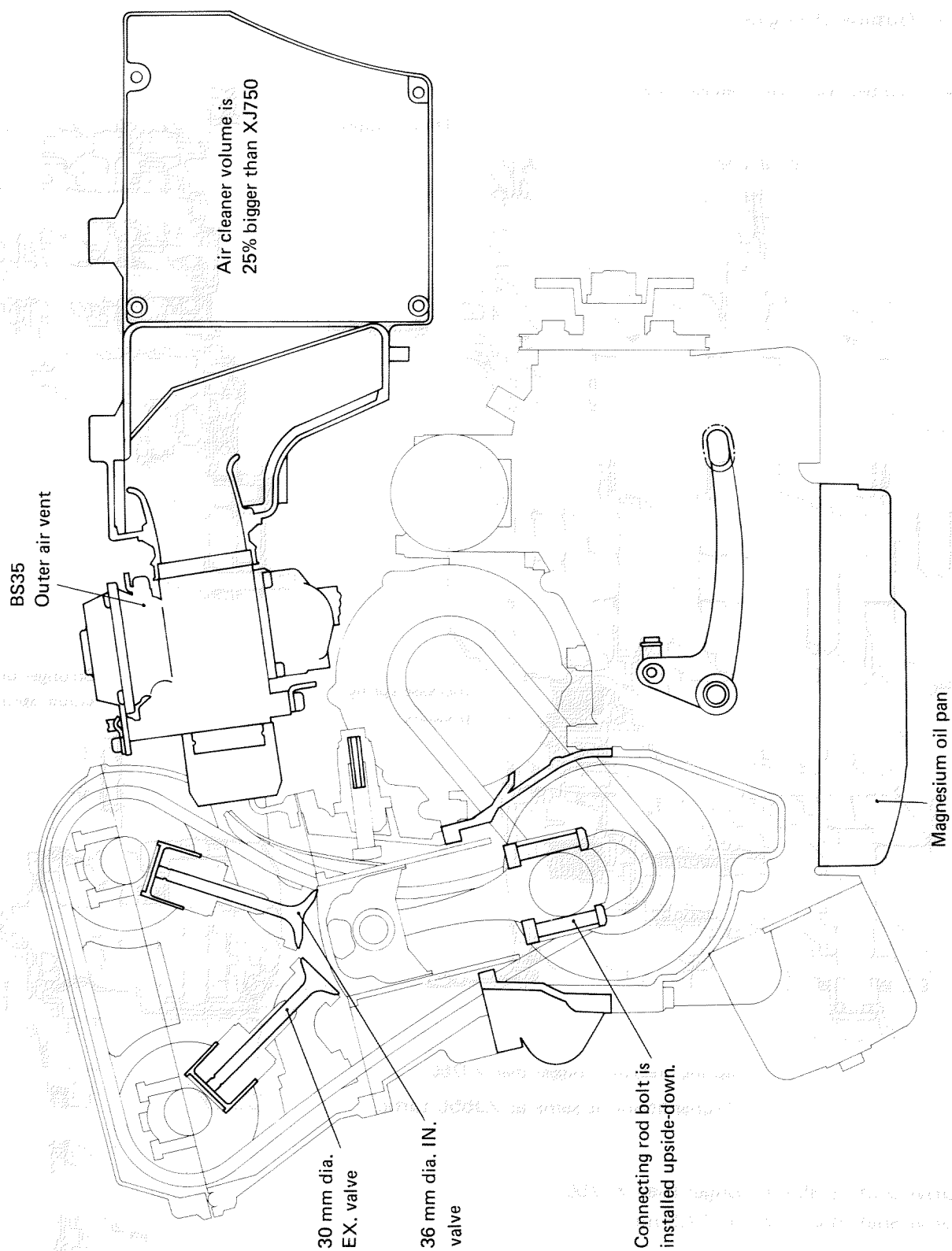
Drive shaft is 35 mm longer than XJ750

Drive shaft dia.: 17 → 17.5 mm

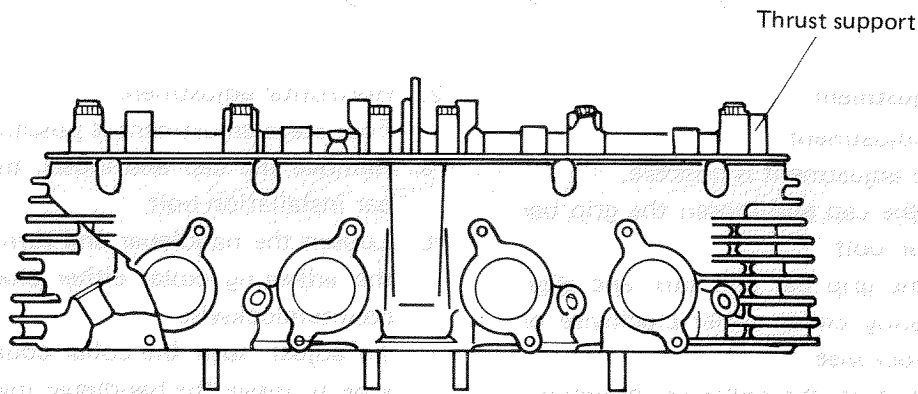
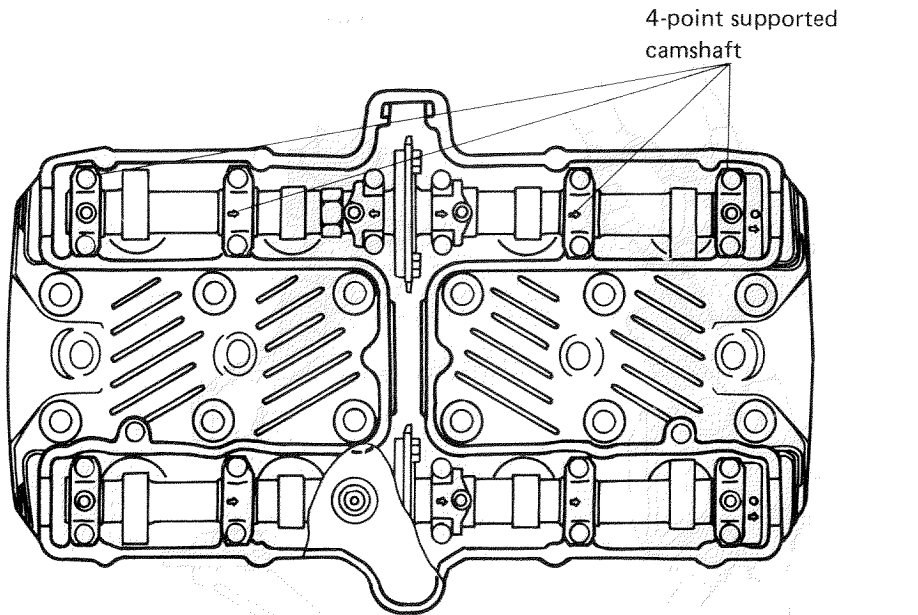


Stronger one-way clutch spring

2-2. Connecting Rod Big End

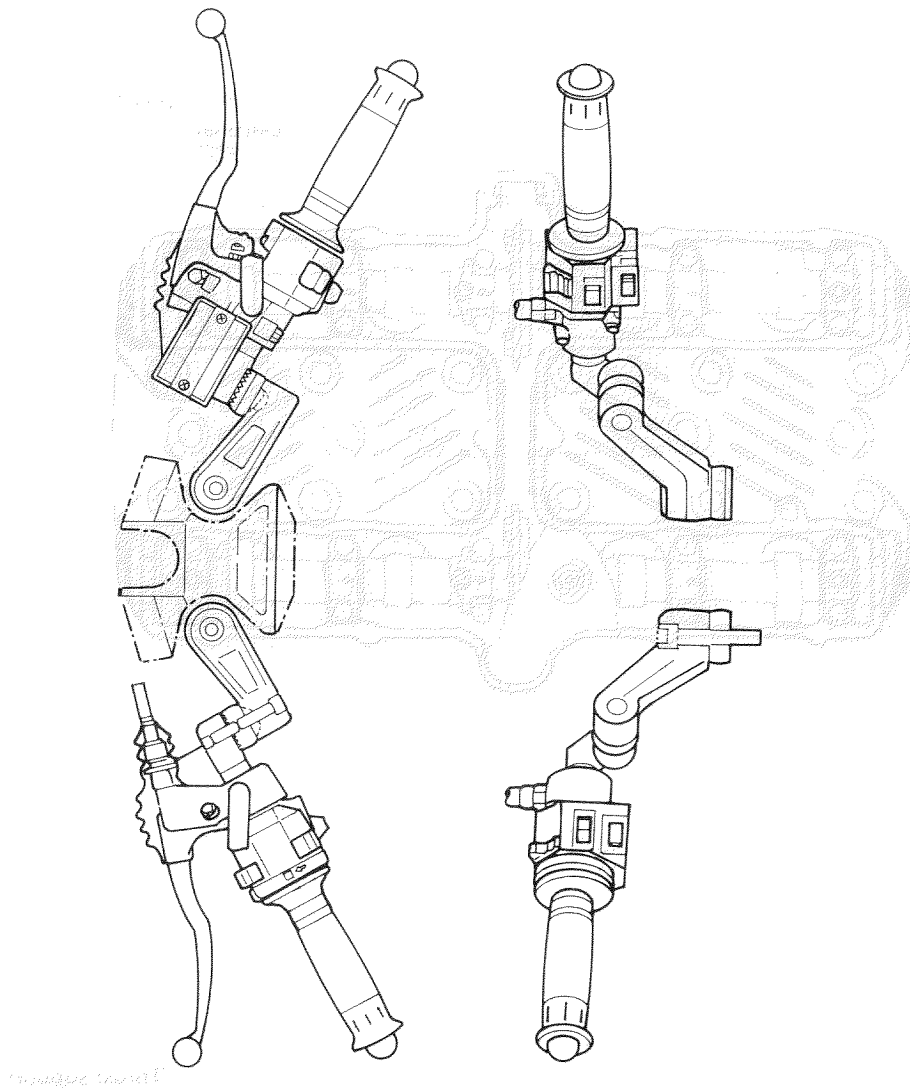


2-3. 4-point Supported Camshaft



(CHASSIS)

2-4. Adjustable Handle Bar



Handlebars adjustment

1. Vertical adjustment

Five-stage adjustment is possible.

- Remove the cap and loosen the grip bar installation bolt.
- Loosen the grip bar and turn and align the adjusting collar either clockwise or counterclockwise.

To adjust, turn the collar counterclockwise to raise the grip bar, turn the collar clockwise to lower the grip bar. (The red mark indicates the standard position.)

NOTE: _____

Check to see that the projection on the handlebar fits a notch in the collar.

2. Horizontal adjustment

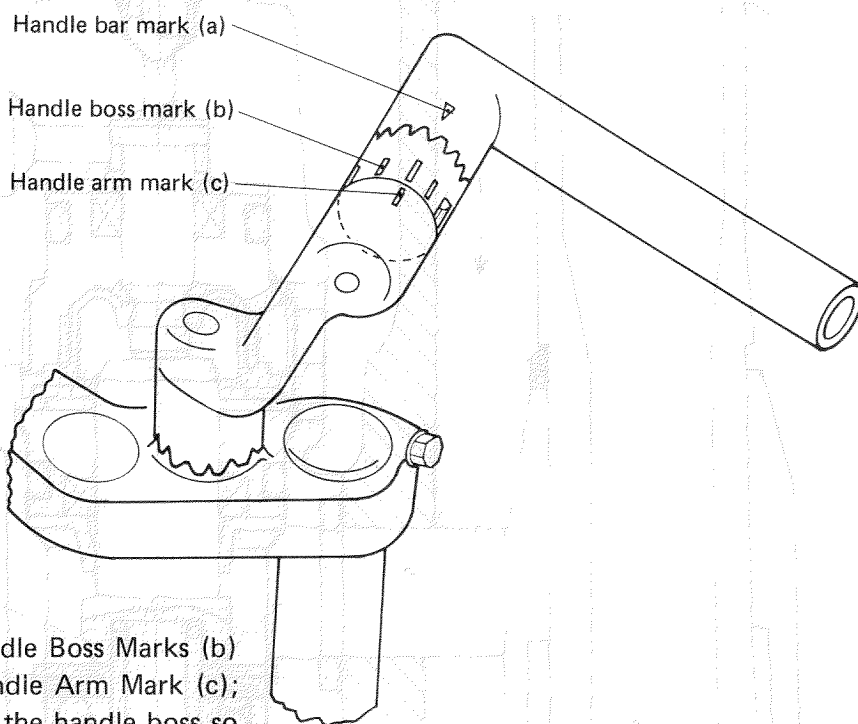
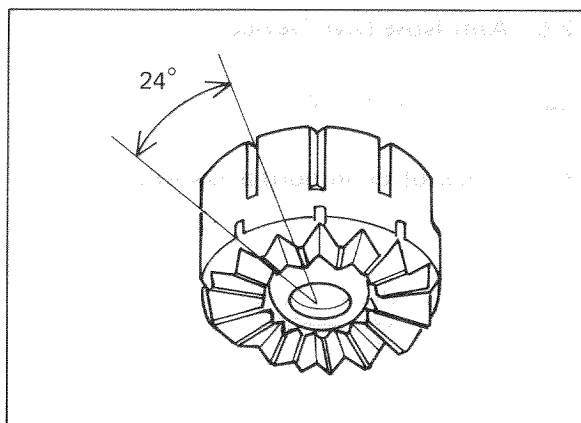
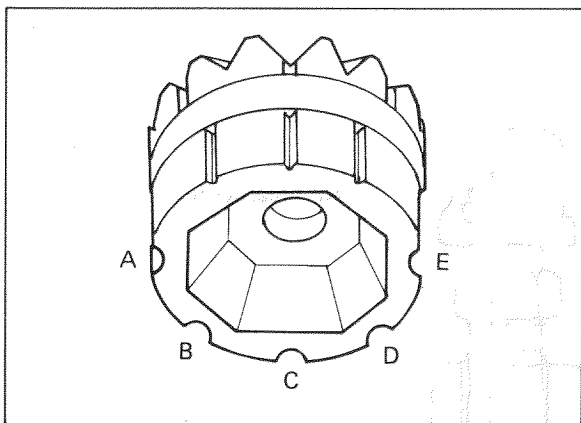
Four-stage adjustment is possible.

- Remove the cap and loosen the handlebar installation bolt.
- Loosen the handlebar and turn and align the adjusting collar either clockwise or counterclockwise.

To adjust, turn the collar counterclockwise to move the handlebar inward, turn the collar clockwise to move the handlebar outward. (The red mark indicates the standard position.)

NOTE: _____

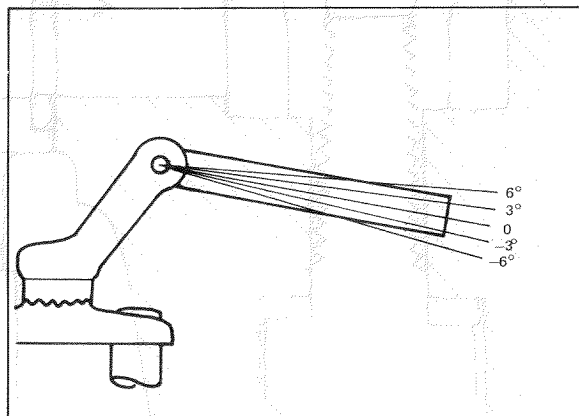
Check to see that the projection on the handlebar fits a notch in the collar.



First align any one of Handle Boss Marks (b) A to E with the fixed Handle Arm Mark (c); then, fit the handlebar to the handle boss so that its fixed Handle Bar Mark (a) comes nearest to the fixed Handle Arm Mark (c) in either of the chosen directions.

POSITION OF SLIT OF BOSS POSITION OF HANDLE BAR (A)	A	B	C	D	E
NORMAL	-6°	-3°	0°	3°	6°

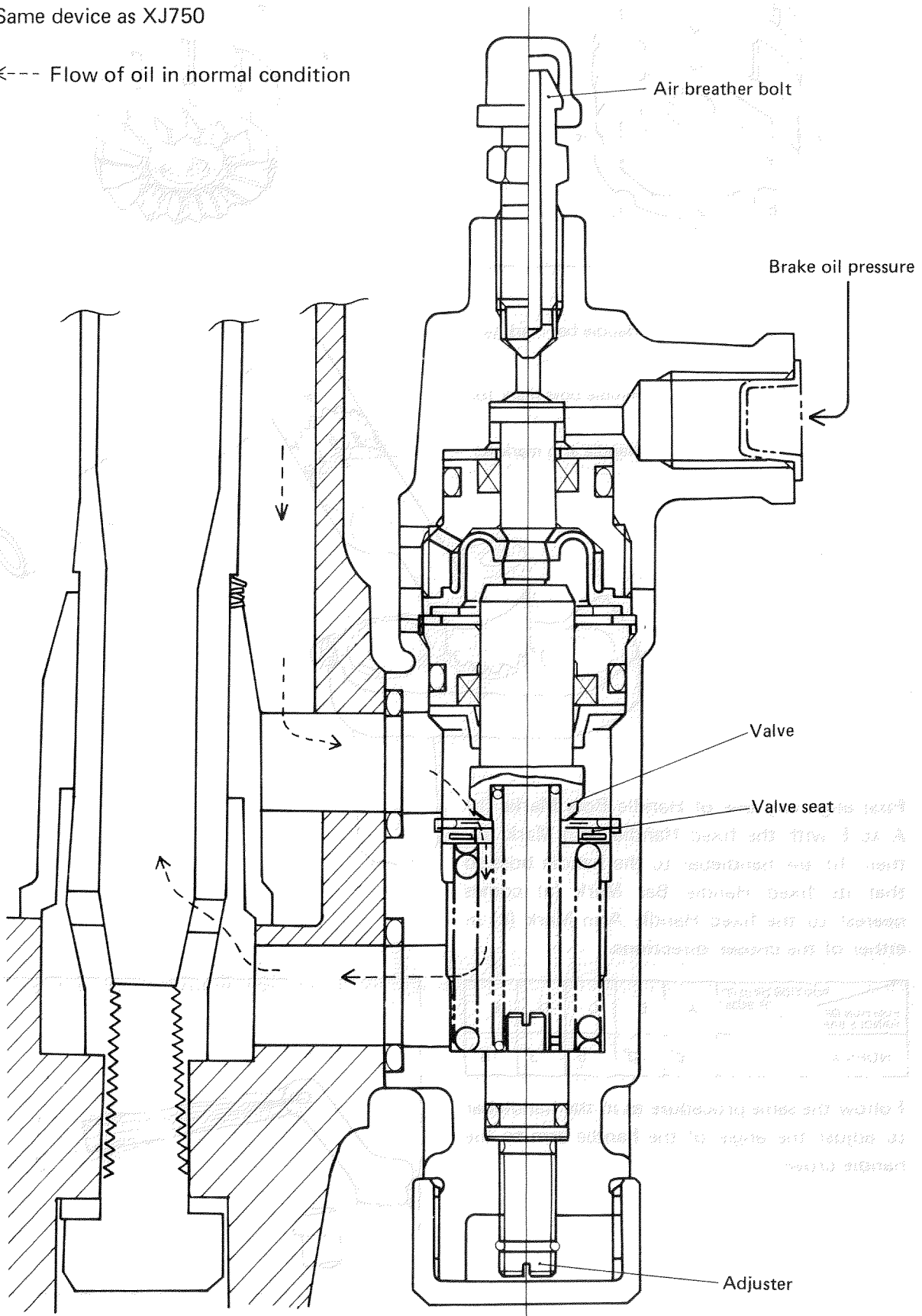
Follow the same procedure as in the handlebar to adjust the angle of the handle arm to the handle crown.



2-5. Anti Nose Dive Device

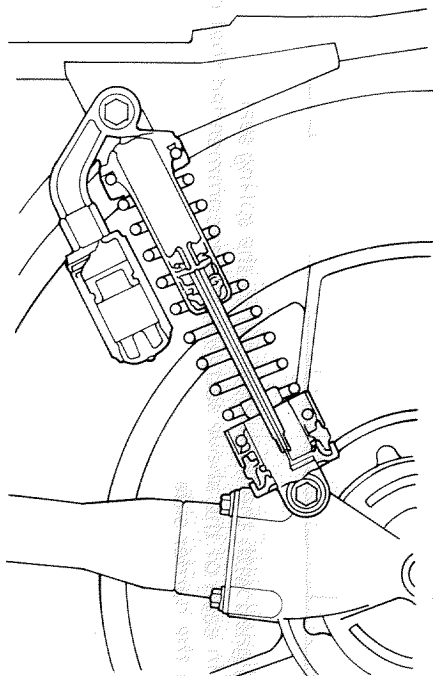
Same device as XJ750

←--- Flow of oil in normal condition



2-6. De Carbon Tipe Rear Shock Unit

Rear shock absorber



Rear shock absorber adjustment

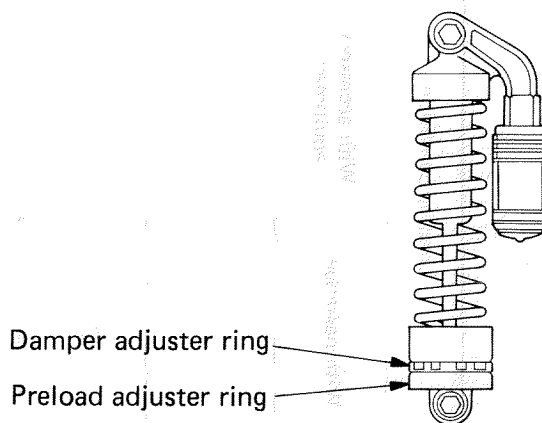
The rear shock absorber of this model features a spring seat, which is a combined spring preload and damping adjuster. Normal adjustment can be made by turning this spring seat, whereas damping adjustment only can be made by the damping adjuster.

CAUTION:

Before adjustment, make sure of the following:

1. Turn in the damping adjuster fully. Then turn it back until its read painted slit aligns with the pointer "▼" on the spring cover.
2. For alignment in the absence of the red paint, turn the damping adjuster 6 clicks back from the fully turned-in position.

By rotating preload adjuster, damper adjuster is rotated together due to both rings are spring loaded. Damper adjuster can be rotated by itself without rotating preload adjuster.



1. Spring seat adjustment

To increase the preload, turn the spring seat clockwise. To decrease the preload, turn the spring seat counterclockwise.

	STIFF ←				STD
Mark	□	▽▽	□	▽	□

2. Damping adjustment

To increase the damping, turn the adjuster clockwise. To decrease the damping, turn the adjuster counterclockwise.

Standard position: 6 clicks turns out (or red mark)

Minimum 12 clicks turns out

Maximum 1 click turn out

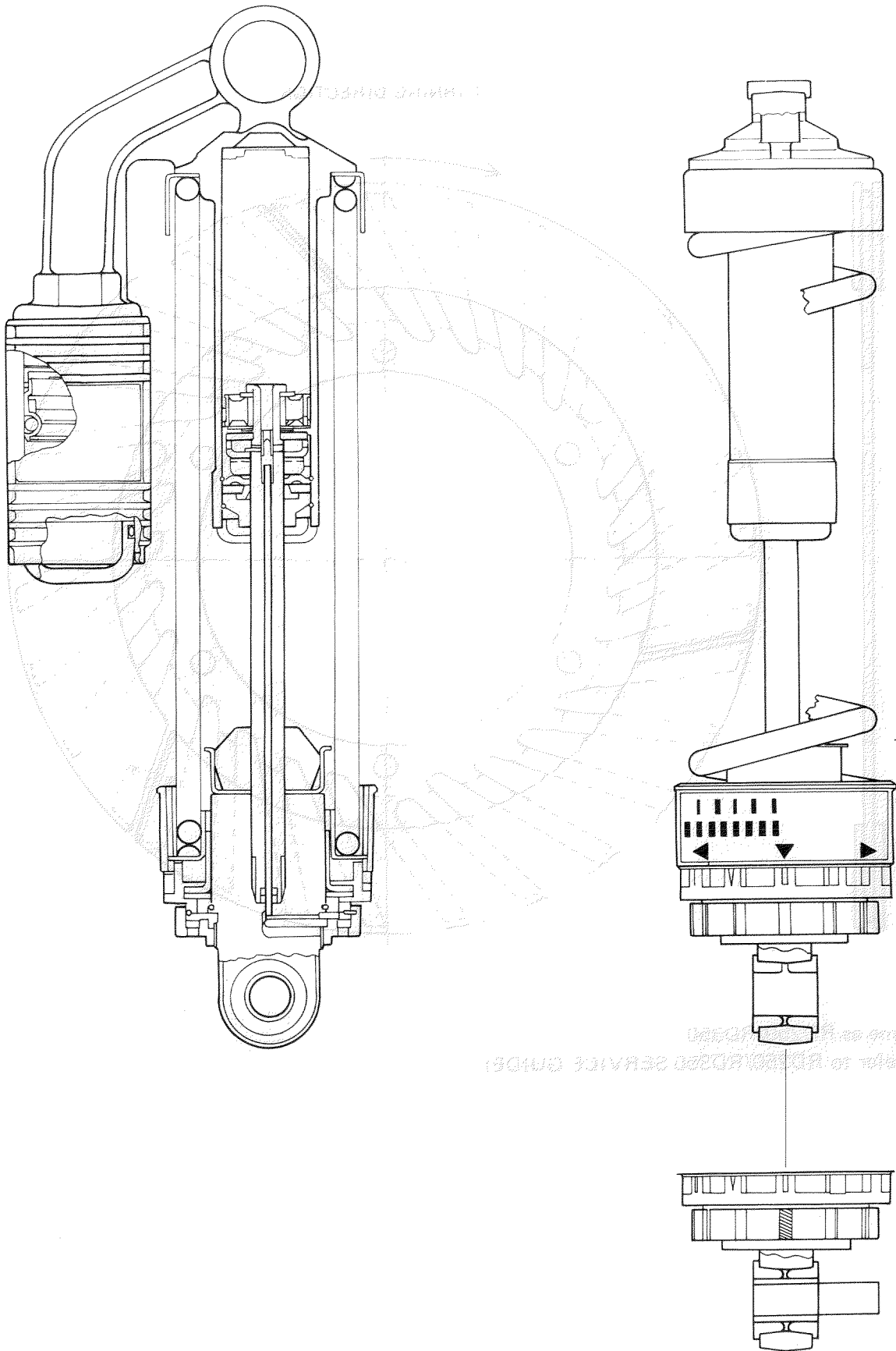
NOTE:

Make adjustment in less than one full turn of the adjuster.

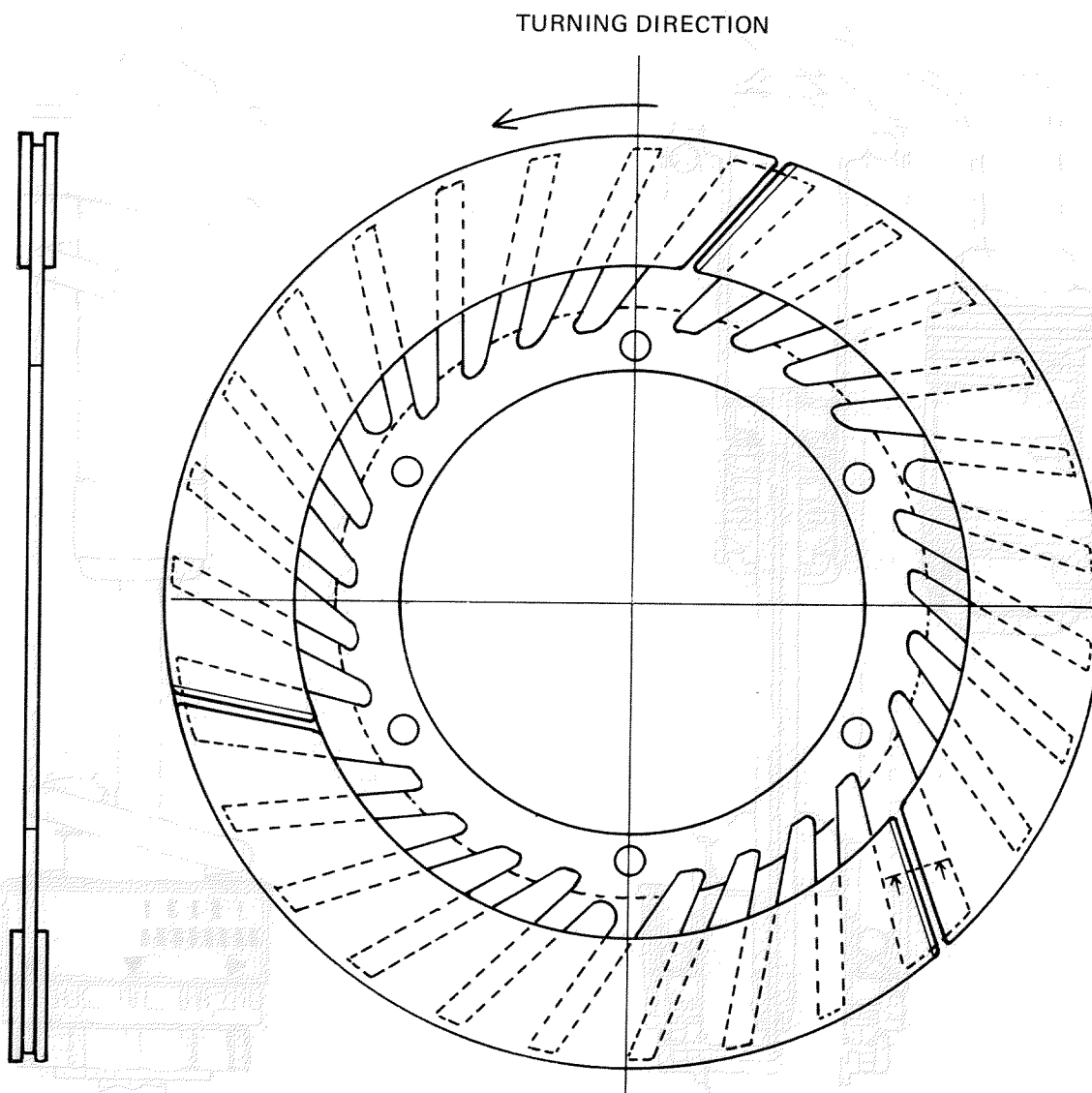
Recommended combinations of the front fork and the rear shock absorber settings.
Use this table as guidance to meet specific riding and motorcycle load conditions.

	Front fork	Rear shock absorber		Solo rider	Loading condition	
		Spring seat	Damping adjuster turns out		With passenger	With accessory equipment
1	39.2 ~ 78.5 kPa (0.4 ~ 0.8 kg/cm ² , 5.7 ~ 11.4 psi)		6	○		
2	39.2 ~ 78.5 kPa (0.4 ~ 0.8 kg/cm ² , 5.7 ~ 11.4psi)		4	○		
3	58.8 ~ 98.1 kPa (0.6 ~ 1.0 kg/cm ² , 8.5 ~ 14.2 psi)		4		○	
4	78.5 ~ 118 kPa (0.8 ~ 1.2 kg/cm ² , 11.4 ~ 17.1 psi)		3			○

* Each numeral shows the damping value which can be set when the pointer is aligned with the individual slit in the spring seat.
The damping adjuster may be further turned for a softer or a harder damping; in each of the above settings, it is recommended that damping be adjusted by one (1) or two (2) clicks on the softer side and one (1) click on the harder side.



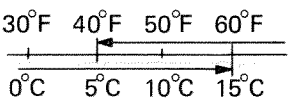
2-7. Ventilated Brake Disc



Same as RD250/RD350
(Refer to RD250/RD350 SERVICE GUIDE)

3. MAINTENANCE TABLE

3-1. Pre-delivery Inspection

ITEMS	REMARKS
Engine oil level check	<p>Recommended oil:</p> <p>30°F 40°F 50°F 60°F (a)</p>  <p>0°C 5°C 10°C 15°C (b)</p> <p>Yamalube 4-cycle oil or SAE 20W40 SE motor oil (a) SAE 10W30 SE motor oil (b)</p>
Fuel draining	
Carburetor synchronization	Use vacuum gauge
Front brake	<p>Free play: 5 ~ 8 mm</p> <p>Use DOT # 3 Brake fluid</p>
Clutch	Lever free play: 2 ~ 3 mm
Air bleeding	Brake master cylinder
Rear brake	<p>Pedal free play: 20 ~ 30 mm</p> <p>Use DOT #3 brake fluid</p>
Throttle grip	Free play at grip flange: 2 ~ 3 mm
Final gear oil	<p>Recommended oil:</p> <p>SAE 80 API GL-4 hypoid gear oil</p> <p>Oil quantity: 0.2 L</p>
Fuel cock	Cleaning the passage and drain the old fuel.

ITEMS	REMARKS
Headlight	Operation and beam adjustment
Battery	Check fluid level and breather pipe connection/routing
Cable routing	Refer to the Assembly Manual
Tire pressure	<p>Under 90 kgf load, Front: 1.8 kgf/cm² Rear: 2.0 kgf/cm²</p> <p>90 ~ 225 kgf load, Front: 2.0 kgf/cm² Rear: 2.3 kgf/cm²</p> <p>High speed riding: Front: 2.0 kgf/cm² Rear: 2.3 kgf/cm²</p>
Tighten bolts/nuts	Refer to the Service Manual
Lights and signals	Check operation

3-2. Maintenance and Lubrication Chart

ITEM	REMARKS	BREAK-IN 1,000 (600) or 1 month	EVERY	
			6,000 (3,800) or 6 months	12,000 (7,500) or 12 months
Valve clearance*	Check/Adjust valve clearance.			
Spark plug(s)	Check/Clean or replace.	○	○	REPLACE
Air filter	Clean or replace.		○	○
Carburetor*	Check/Adjust/idle speed, synchronization, starter operation.		○	○
Engine oil	Replace (Warm engine before draining).	○	○	○
Engine oil filter*	Replace.	○		○
Final gear oil	Replace.		CHECK	CHECK
Brake*	Check operation/fluid leakage/See NOTE.		○	○
Clutch*	Check operation		○	○
Rear arm pivot bearings*	Check bearings assembly for looseness. Moderately repack. ** Every 24,000 (15,000) or 24 months		CHECK	CHECK
Wheels	Check balance/damage/Runout		○	○
Wheel bearings*	Check bearings assembly for looseness/damage. Replace if damaged.			○
Steering bearing*	Check bearings assembly for looseness. Moderately repack. ** Every 24,000 (15,000) or 24 months			CHECK
Front forks*	Drain completely — Check specifications.			REPLACE EVERY 24,000 (15,000)
Fittings/Fasteners*	Tighten before each trip and/or ...	○	○	○
Battery*	Check specific gravity. Check breather pipe for proper operation.		○	○
A.C. Generator*	Replace generator brushes.			○

* : It is recommended that these items be serviced by a Yamaha dealer.

** : Medium weight wheel bearing grease.

NOTE:

Brake fluid replacement:

1. When disassembling the master cylinder or caliper cylinder (clutch release cylinder), replace the brake fluid. Normally check the brake fluid level and add the fluid as required.
2. On the inner parts of the master cylinder and caliper cylinder (clutch release cylinder), replace the oil seals every two years.
3. Replace the brake (clutch) hoses every four years, or if cracked or damaged.

4. APPENDICES

4-1. Specifications

Model code	31A (Europe), 32F (Switzerland), 31E (Canada) 35H (U.S.), 33F (Oceania)
Overall length	2,215 mm (Europe), 2,260 mm (Switzerland), 2,190 mm (Canada)
Overall width	735 mm
Overall height	1,240 mm
Seat height	790 mm
Wheelbase	1,480 mm
Min. ground clearance	150 mm
Dry weight	280 kgf
Engine:	
Engine type	Air cooled, 4-stroke, DOHC, parallel 4-cylinder
Displacement	853 cm ³
Bore x Stroke	67 x 60.5 mm
Compression ratio	9.6 : 1
Lubrication:	
Lubrication system	Wet sump
Engine oil type	Yamalube 4-cycle or SAE 20W40 SE motor oil
Final gear oil type	SAE 80 API "GL-4" hypoid gear oil
Oil capacity - Engine	Periodic change: With oil filter replacement: Total amount: 3.6 L
Final gear case	0.2 L
Fuel:	
Fuel tank capacity	22L
Fuel tank reserve amount	5 L
Carburetor:	
Type/Manufacturer	BS35/MIKUNI
Transmission:	
Primary reduction system/Ratio	Spar gear/97/58 (1.672)
Secondary reduction system/Ratio	Shaft/ 48/37 x 19/18 x 32/11 (3.983)
Gear ratio: 1st	35/16 (2.187)
2nd	30/20 (1.153)
3rd	30/26 (1.153)
4th	28/30 (0.933)
5th	26/32 (0.812)

Tire: Tire size, Front Rear	100/90V18 120/90V18
Wheel travel: Front Rear	150 mm 100 mm
Electrical: Ignition system Battery type	TCI YB14L-A2



4-3. Special Tools

MEMO

FOR TUNE-UP

- | | |
|---------------------------|-------------|
| 1. INDUCTIVE TACHOMETER | 90890-03113 |
| 2. INDUCTIVE TIMING LIGHT | 90890-03109 |
| 3. FUEL LEVEL GAUGE | 90890-01312 |
| 4. COMPRESSION GAUGE | 90890-03081 |
| 5. VACUUM GAUGE | 90890-03094 |

FOR ENGINE SERVICE

- | | |
|------------------------------------|-------------|
| 6. CLUTCH HOLDING TOOL | 90890-04086 |
| 7. TAPPET ADJUSTING TOOL | 90890-01245 |
| 8. VALVE SPRING COMPRESSOR | 90890-04019 |
| 9. VALVE GUIDE REMOVER | 90890-01225 |
| 10. VALVE GUIDE REAMER | 90890-01227 |
| 11. VALVE GUIDE INSTALLER | 90890-04017 |
| 12. VALVE SEAT CUTTER SET | YM-91043 |
| 13. PISTON RING COMPRESSOR | 90890-04044 |
| 14. PISTON BASE | 90890-01067 |
| 15. PISTON PIN PULLER | 90890-01304 |
| 16. CAM CHAIN CUTTER | 90890-01112 |
| 17. ROCKER ARM SHAFT PULLER | 90890-01083 |
| 18. ROCKER ARM SHAFT PULLER WEIGHT | 90890-01084 |
| 19. Y.I.C.S. SHUT OFF TOOL | 90890-04068 |
| 20. ROTOR PULLER | 90890-01080 |
| 21. ROTOR PULLER ATTACHMENT | 90890-01312 |
| 22. ROTOR HOLDING TOOL | 90890-04043 |
| 23. PLASTIGAUGE SET "GREEN" | YU-33210 |

FOR CHASSIS SERVICE

- | | |
|--------------------------------|-------------|
| 24. T-HANDLE ROD HOLDER | 90890-01326 |
| 25. FRONT FORK CYLINDER HOLDER | New (NA) |
| 26. FORK SEAL DRIVER | New (NA) |
| 27. RING NUT WRENCH | 90890-01051 |

FOR MIDDLE GEAR SERVICE

- | | |
|-----------------------------------|-------------|
| 28. MIDDLE DRIVE SHAFT NUT WRENCH | 90890-04045 |
| 29. MIDDLE DRIVE SHAFT HOLDER | 90890-04046 |
| 30. DAMPER SPRING COMPRESSOR | 90890-04090 |
| 31. TORX WRENCH (T-40) | 90890-04049 |
| 32. GEAR LASH MEASUREMENT TOOL | 90890-01231 |
| 33. MIDDLE DRIVE PINION HOLDER | 90890-04051 |
| 34. DIAL GAUGE | 90890-03097 |

FOR FINAL GEAR SERVICE

- | | |
|--|-------------|
| 35. FINAL DRIVE GEAR LASH TOOL | 90890-01230 |
| 36. RING GEAR HOLDER | 90890-01254 |
| 37. FINAL DRIVE GEAR HOLDING TOOL | 90890-01229 |
| 38. DRIVE PINION BEARING RETAINER REMOVER | 90890-04050 |
| 39. ARMATURE SHOCK PULLER (M10 x 1.25) | 90890-01290 |
| 40. ARMATURE SHOCK PULLER WEIGHT | 90890-01291 |
| 41. CRANK INSTALLER ADAPTER (M10 x 1.25 - M14 x 1.5) | 90890-01277 |
| 42. SHAFT DRIVE PULLER | 90890-04012 |

FOR ELECTRICAL COMPONENT SERVICE

- | | |
|--------------------|-------------|
| 43. ELECTRO TESTER | 90890-03021 |
| 44. POCKET TESTER | 90890-03104 |