

**XT350
SERVICE GUIDE**

YAMAHA

technical training

FOREWORD

This service guide provides service information for new mechanism of the NEW XT350 and is intended for use in your new model service training school.

For detailed procedures, you can refer to the respective service manual. As this guide describes pre-delivery and service notes, it also serves as a guide for initial inspection steps.

It is our sincere hope and belief that this guide will help enhance the technical knowledge and servicing ability of all of you.

**TECHNICAL PUBLICATIONS
SERVICE DIVISION
MOTORCYCLE OPERATIONS
YAMAHA MOTOR CO., LTD.**

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XT350

SERVICE GUIDE

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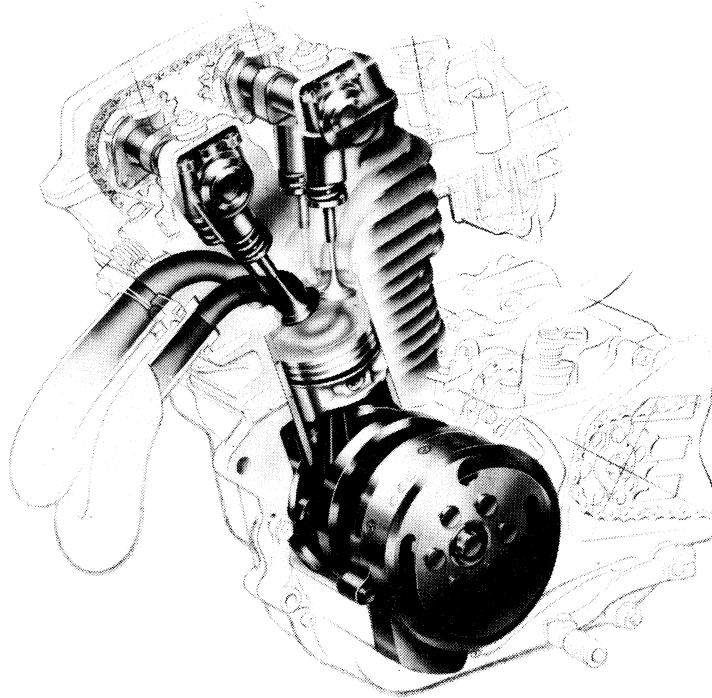
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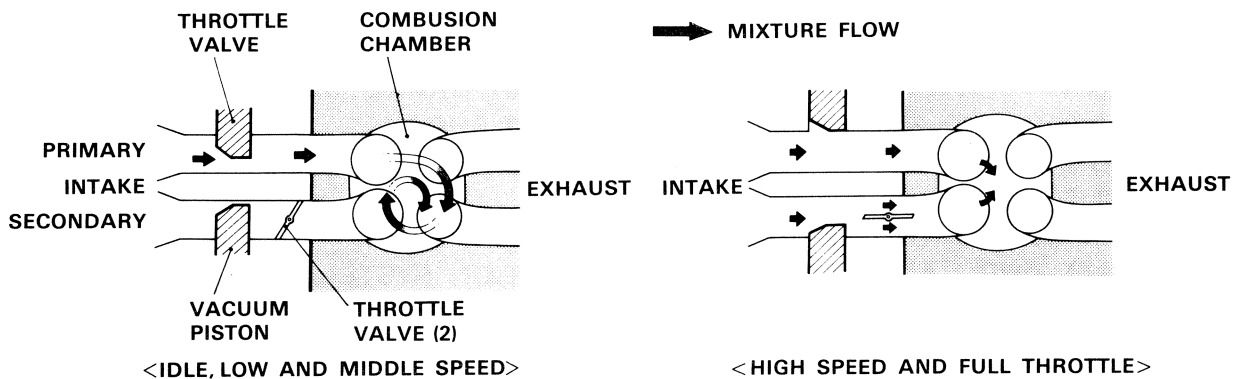
Printed in U.S.A.

ENGINE

- 4-VALVE SYSTEM (2 INTAKE AND 2 EXHAUST VALVES)
- DOHC WITH BALANCER
- Y.D.I.S. (YAMAHA DUAL-INTAKE SYSTEM)



Y.D.I.S.



OPERATION

From idle to half throttle, primary carburetor supplies air-fuel mixture and it operates with secondary carburetor at high speed and full throttle.

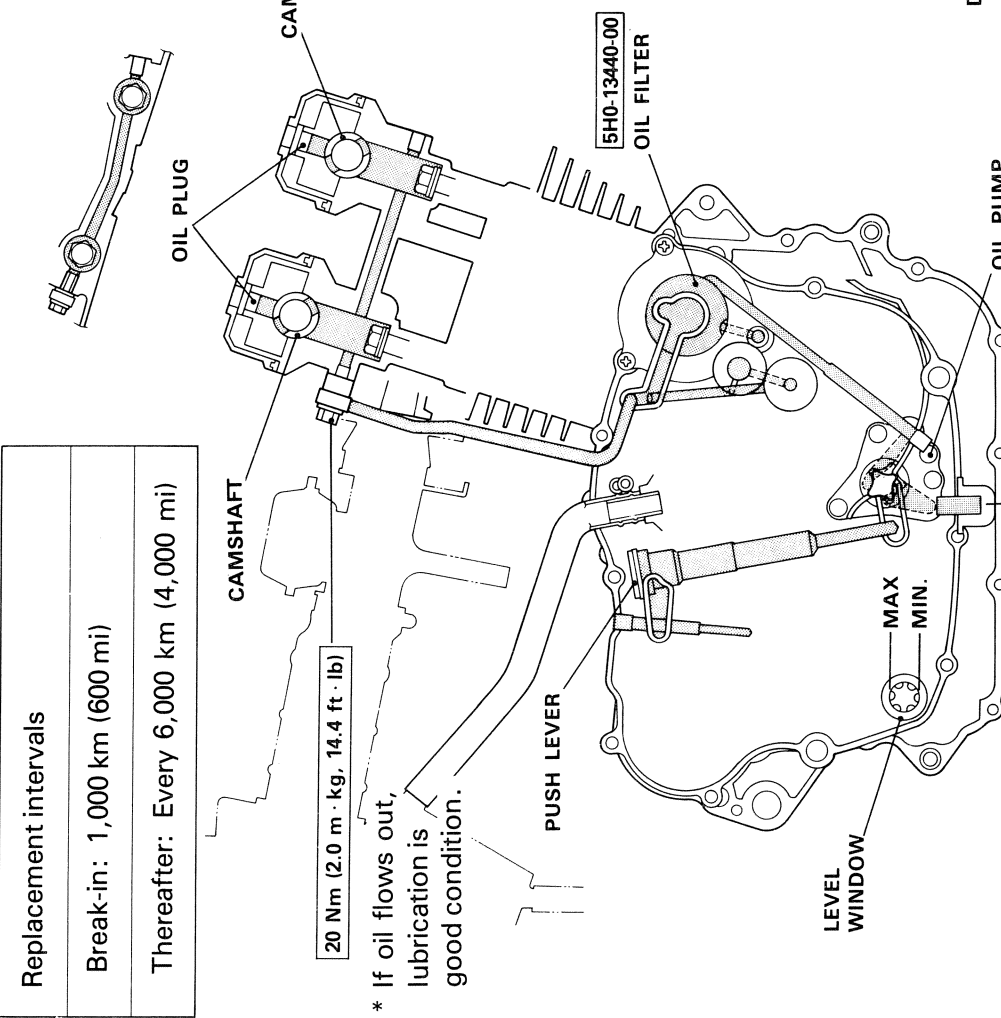
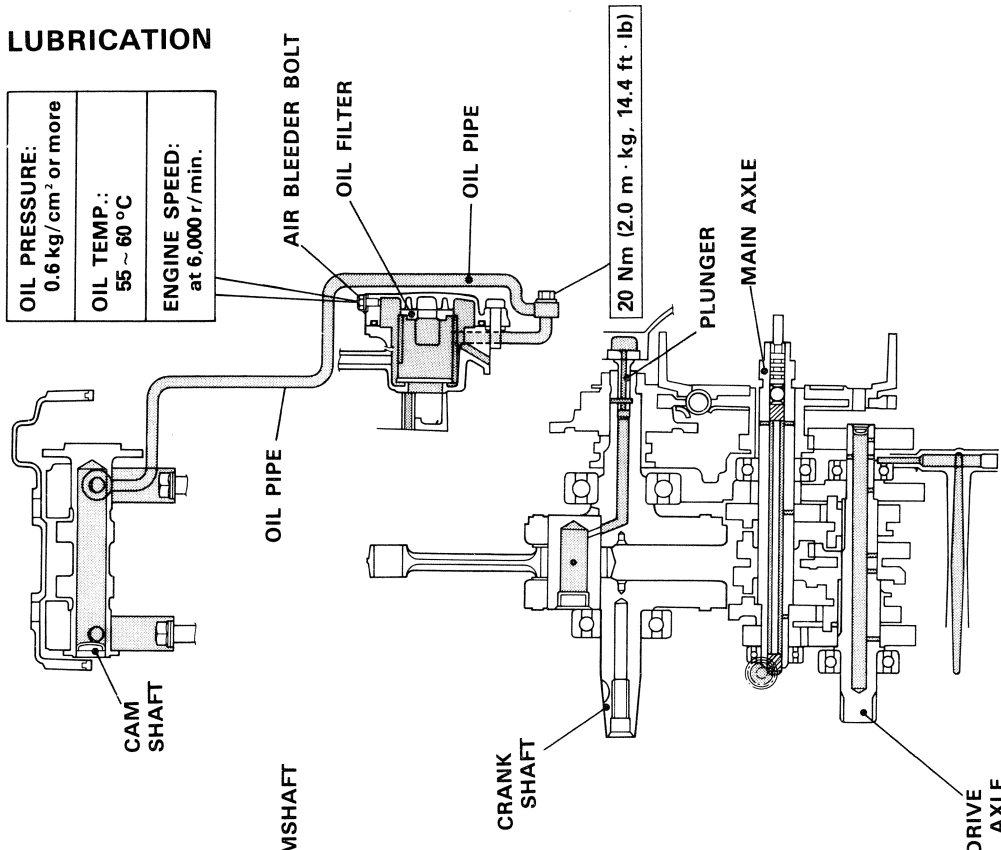
Due to two venturis, intake port area of each valve is smaller than in conventional engine, their combined area is about 20 percent greater than single. Since 4-valve layout offsets intake port relative to cylinder-bore axis, strong swirl is produced along cylinder wall in low-to-middle range. Combustion efficiency is significantly enhanced due to this swirl, resulting in improved fuel economy at usefull engine speed.

LUBRICATION

OIL PRESSURE: 0.6 kg/cm ² or more
OIL TEMP.: 55 ~ 60 °C
ENGINE SPEED: at 6,000 r/min.

Engine oil and oil filter

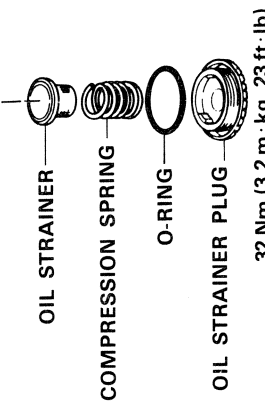
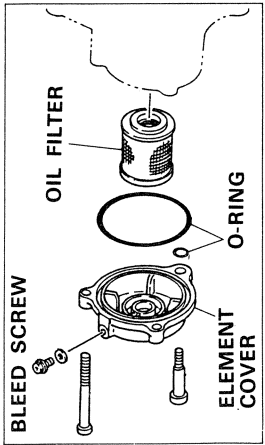
Replacement intervals
Break-in: 1,000 km (600 mi)
Thereafter: Every 6,000 km (4,000 mi)



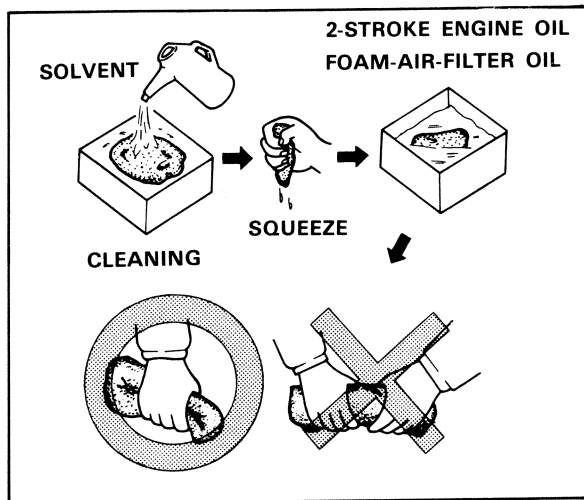
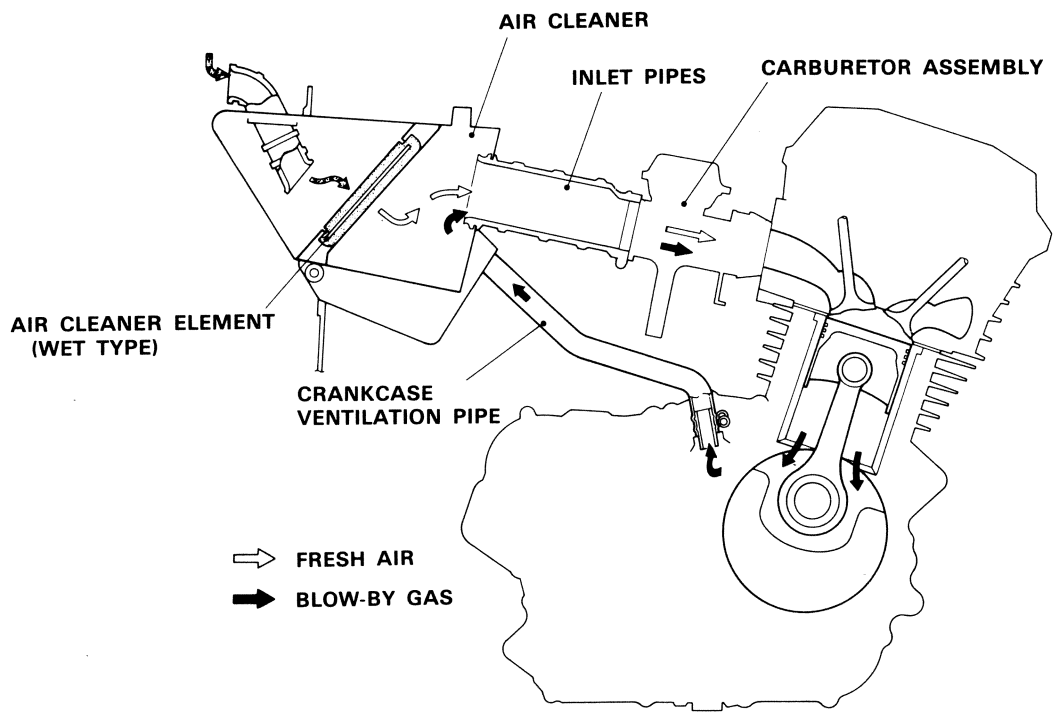
* If oil flows out, lubrication is good condition.

Recommended oil: SAE 20W40 Type SE Motor oil
Periodic oil change: 1.3 L (1.14 Imp qt, 1.34 US qt)
Oil filter replacement: 1.4 L (1.23 Imp qt, 1.44 US qt)
Total amount: 1.6 L (1.4 Imp qt, 1.7 US qt)

• **DRAIN PLUG:** 43 Nm (4.3 m · kg, 31 ft · lb)

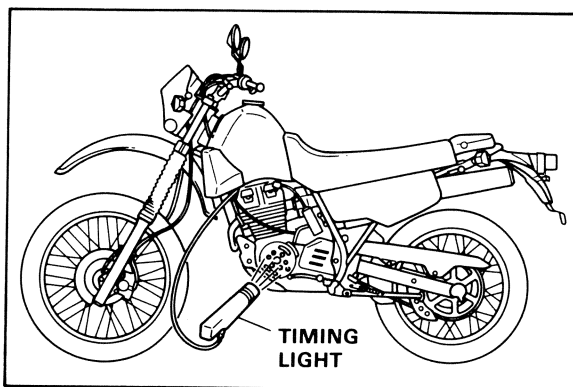


AIR CLEANER AND CRANKCASE VENTILATION SYSTEM

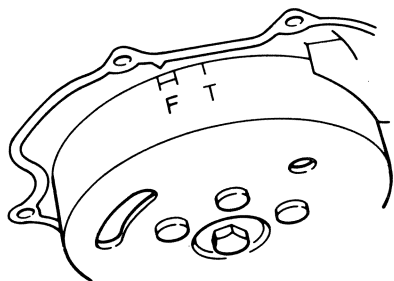


Maintenance interval:
every 6,000 km (4,000 mi)

IGNITION TIMING

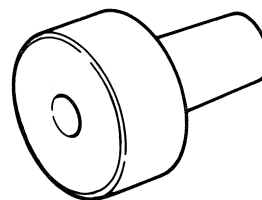


* When removing rotor assembly, use magneto puller attachment.



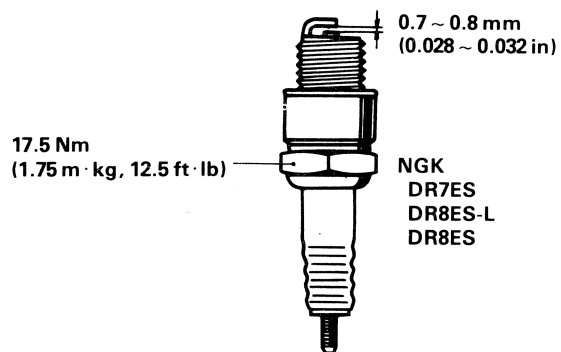
Ignition timing:	<ul style="list-style-type: none"> • B.T.D.C. 12° • 1,400 r/min
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P/No. YM1382



CRANKSHAFT PROTECTOR

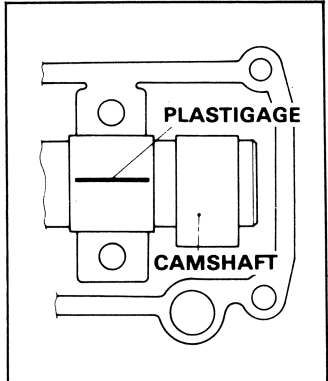
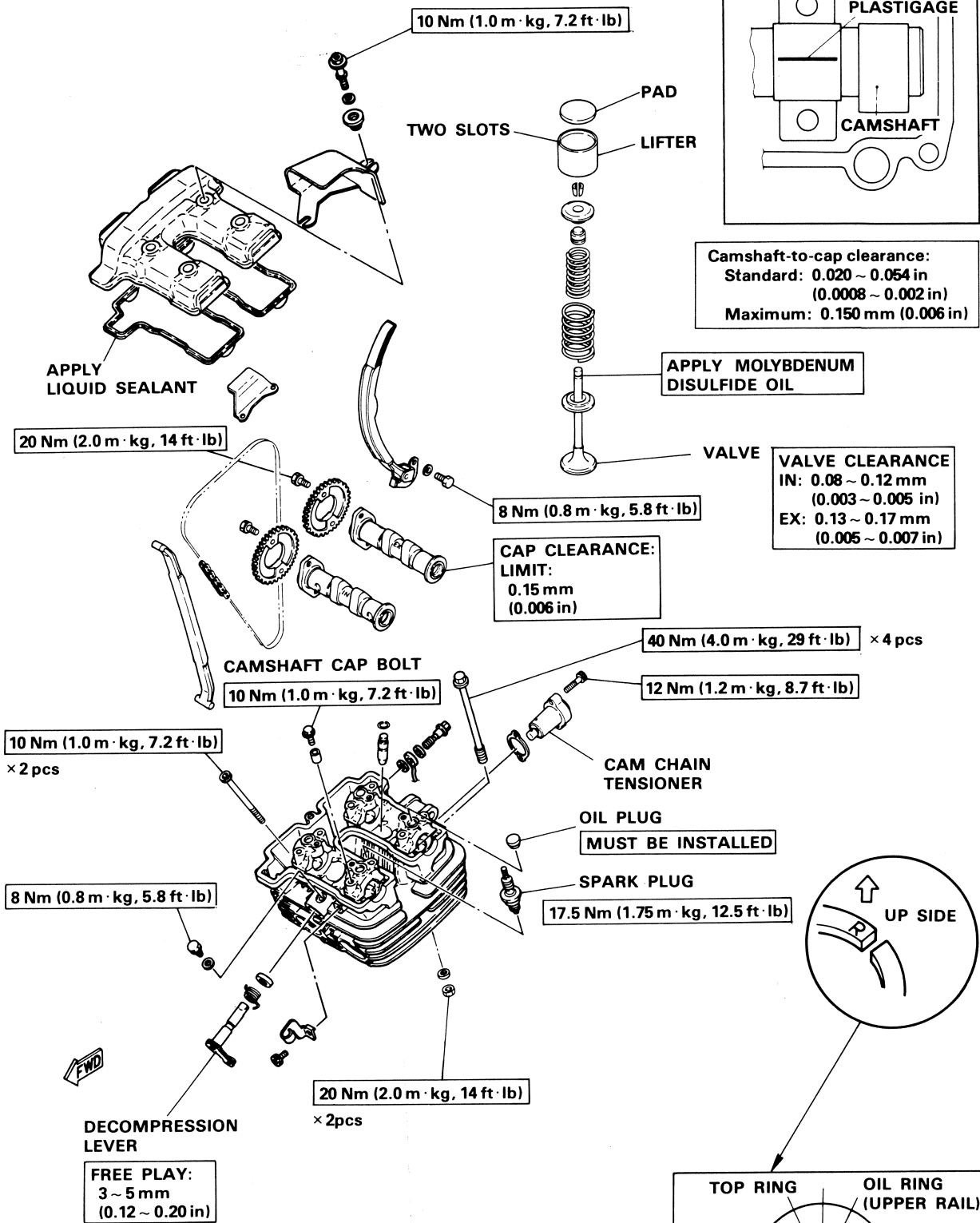
SPARK PLUG



- Maintenance intervals

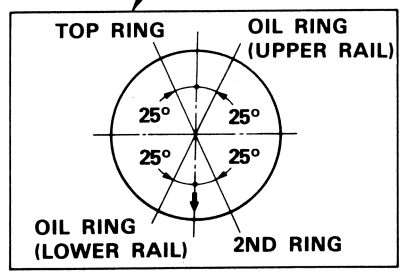
Initial: 1,000 km (600 mi)	Thereafter: every 6,000 km (4,000 mi)
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CYLINDER HEAD AND CAMSHAFTS

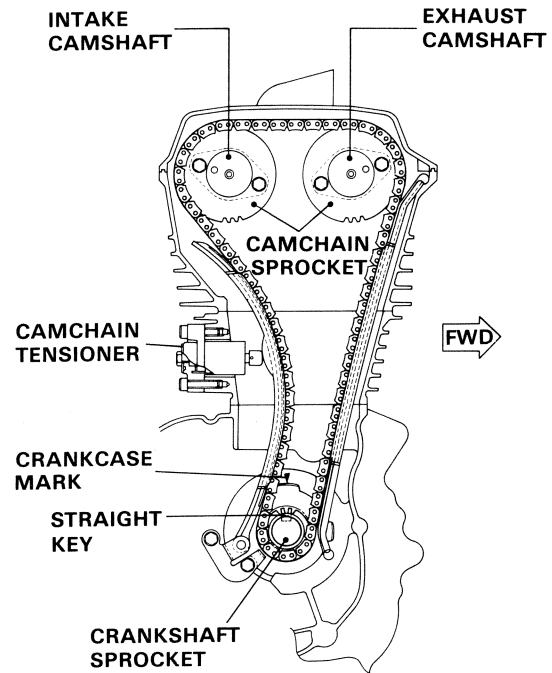
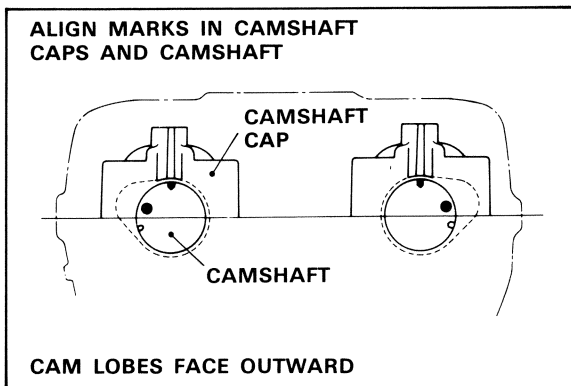
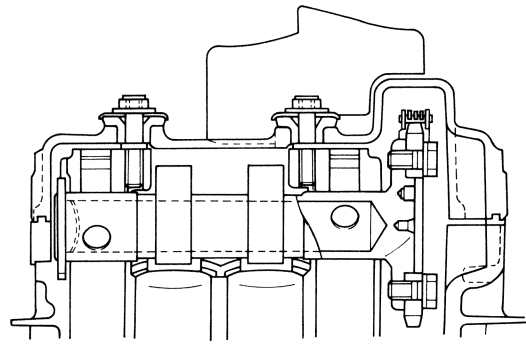
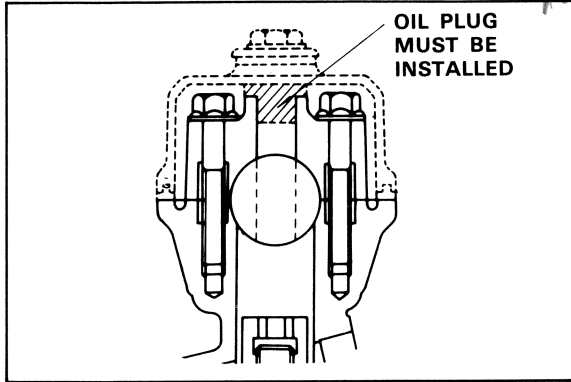


Camshaft-to-cap clearance:
 Standard: 0.020 ~ 0.054 in (0.0008 ~ 0.002 in)
 Maximum: 0.150 mm (0.006 in)

VALVE CLEARANCE
 IN: 0.08 ~ 0.12 mm (0.003 ~ 0.005 in)
 EX: 0.13 ~ 0.17 mm (0.005 ~ 0.007 in)



CAMCAP INSTALLATION

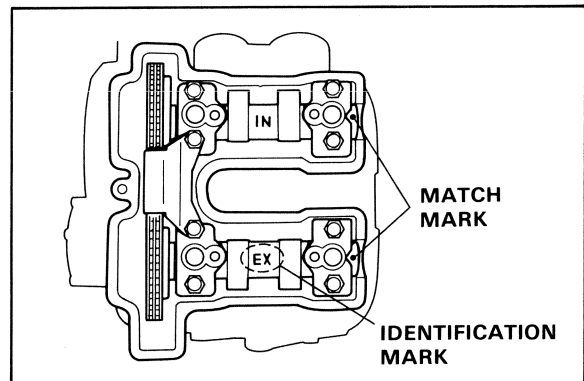
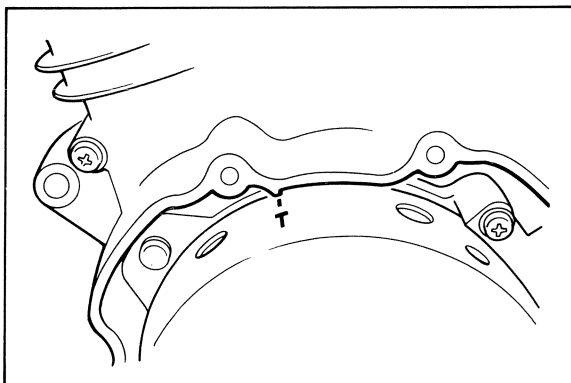


PROCEDURE

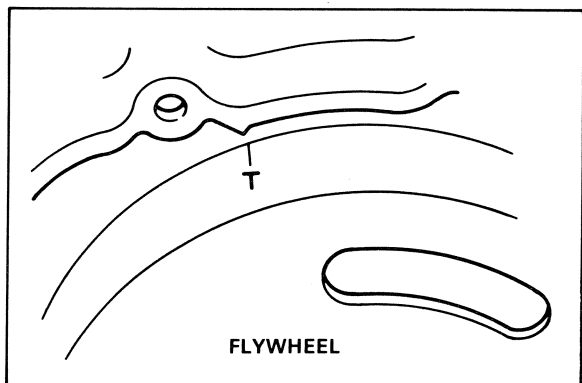
1. Align crankcase mark with keyways of crankshaft sprocket and crankshaft.
2. Align marks in camshaft and camshaft cap, and install camchain sprocket.

CAM SHAFT INSTALLATION

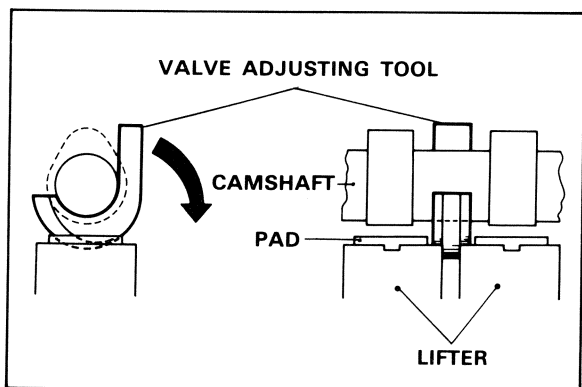
1. Turn crankshaft to counterclockwise, and align "T" mark on flywheel with stationary pointer.
2. Install camshaft on cylinder head. The identification mark must be faced up side.



VALVE CLEARANCE

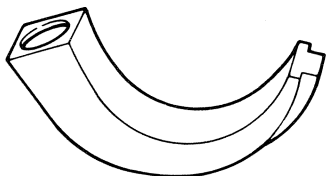


- Align T mark with stationary pointer at Top Dead Center (T.D.C.).

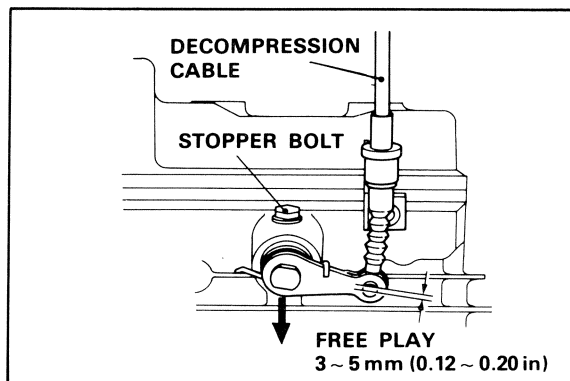


- The slots in lifter must be positioned opposite each other on Ex and IN side before tool is installed.

Tool No. YM4106 (SAME AS XT250L)



Intake valve (Cold):
0.08 ~ 0.12 mm (0.003 ~ 0.005 in)
Exhaust valve (Cold):
0.13 ~ 0.17 mm (0.005 ~ 0.007 in)



- When adjust valve clearance, remove stopper bolt and pull lever towards front.

Hundredths digit	Rounded value
0 or 2	0
5	(NOT ROUNDED OFF)
8	10

For example, if the original pad number is 258 (2.58 mm), the rounded off number is 260.

- Maintenance intervals

Initial: 1,000 km (600 mi)	Thereafter: every 6,000 km (4,000 mi)
----------------------------------	--

Intake

MEASURED CLEARANCE	INSTALLED PAD NUMBER																															
	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320							
0.00 ~ 0.02			200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320					
0.03 ~ 0.07		200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320						
0.08 ~ 0.12																																
0.13 ~ 0.17	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320								
0.18 ~ 0.22	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320									
0.23 ~ 0.27	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320										
0.28 ~ 0.32	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320											
0.33 ~ 0.37	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320												
0.38 ~ 0.42	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320													
0.43 ~ 0.47	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320														
0.48 ~ 0.52	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320															
0.53 ~ 0.57	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320																
0.58 ~ 0.62	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320																	
0.63 ~ 0.67	255	260	265	270	275	280	285	290	295	300	305	310	315	320																		
0.68 ~ 0.72	260	265	270	275	280	285	290	295	300	305	310	315	320																			
0.73 ~ 0.77	265	270	275	280	285	290	295	300	305	310	315	320																				
0.78 ~ 0.82	270	275	280	285	290	295	300	305	310	315	320																					
0.83 ~ 0.87	275	280	285	290	295	300	305	310	315	320																						
0.88 ~ 0.92	280	285	290	295	300	305	310	315	320																							
0.93 ~ 1.97	285	290	295	300	305	310	315	320																								
0.98 ~ 1.02	290	295	300	305	310	315	320																									
1.03 ~ 1.07	295	300	305	310	315	320																										
1.08 ~ 1.12	300	305	310	315	320																											
1.13 ~ 1.17	305	310	315	320																												
1.18 ~ 1.22	310	315	320																													
1.23 ~ 1.27	315	320																														
1.28 ~ 1.32	320																															

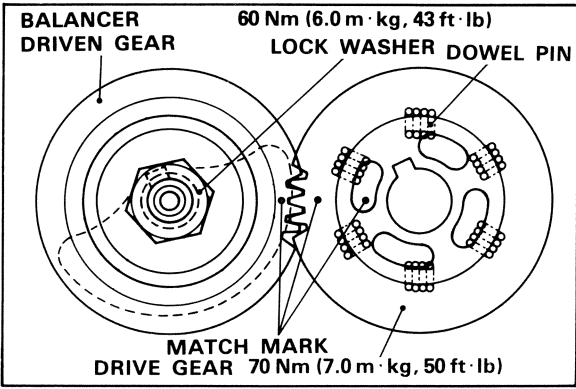
VALVE CLEARANCE (engine cold) 0.08 ~ 0.12 mm (0.031 ~ 0.048 in)
 Example Installed is 250
 Measured clearance is 0.32 mm (0.013 in)
 Replace 250 pad with 270
 *Pad number: (example) Pad No. 250 = 2.50 mm (0.098 in)
 Pad No. 255 = 2.55 mm (0.100 in)
 Always install pad with number down

Exhaust

MEASURED CLEARANCE	INSTALLED PAD NUMBER																															
	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320							
0.00 ~ 0.02				200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320				
0.03 ~ 0.07			200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320					
0.08 ~ 0.12		200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320						
0.13 ~ 0.17																																
0.18 ~ 0.22	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320								
0.23 ~ 0.27	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320									
0.28 ~ 0.32	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320										
0.33 ~ 0.37	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320											
0.38 ~ 0.42	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320												
0.43 ~ 0.47	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320													
0.48 ~ 0.52	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320														
0.53 ~ 0.57	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320															
0.58 ~ 0.62	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320																
0.63 ~ 0.67	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320																	
0.68 ~ 0.72	255	260	265	270	275	280	285	290	295	300	305	310	315	320																		
0.73 ~ 0.77	260	265	270	275	280	285	290	295	300	305	310	315	320																			
0.78 ~ 0.82	265	270	275	280	285	290	295	300	305	310	315	320																				
0.83 ~ 0.87	270	275	280	285	290	295	300	305	310	315	320																					
0.88 ~ 0.92	275	280	285	290	295	300	305	310	315	320																						
0.93 ~ 1.97	280	285	290	295	300	305	310	315	320																							
0.98 ~ 1.02	285	290	295	300	305	310	315	320																								
1.03 ~ 1.07	290	295	300	305	310	315	320																									
1.08 ~ 1.12	295	300	305	310	315	320																										
1.13 ~ 1.17	300	305	310	315	320																											
1.18 ~ 1.22	305	310	315	320																												
1.23 ~ 1.27	310	315	320																													
1.28 ~ 1.32	315	320																														
1.33 ~ 1.37	320																															

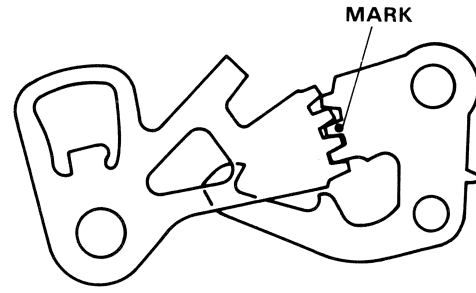
VALVE CLEARANCE (engine cold) 0.13 ~ 0.17 mm (0.052 ~ 0.068 in)
 Example Installed is 250
 Measured clearance is 0.32 mm (0.013 in)
 Replace 250 pad with 265
 *Pad number: (example) Pad No. 250 = 2.50 mm (0.098 in)
 Pad No. 255 = 2.55 mm (0.100 in)
 Always install pad with number down

BALANCER

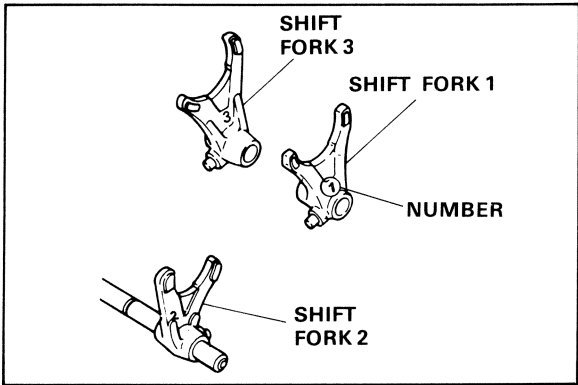
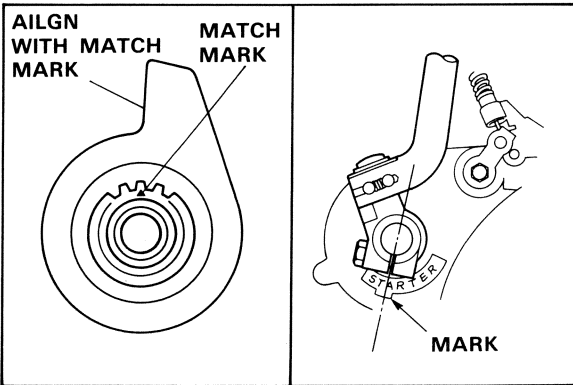


- Align punch marks.

SHIFTER

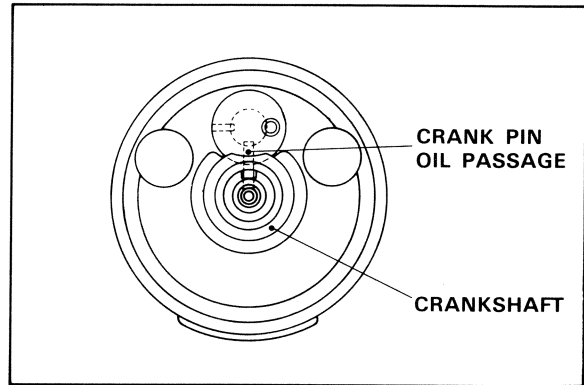


KICK STARTER



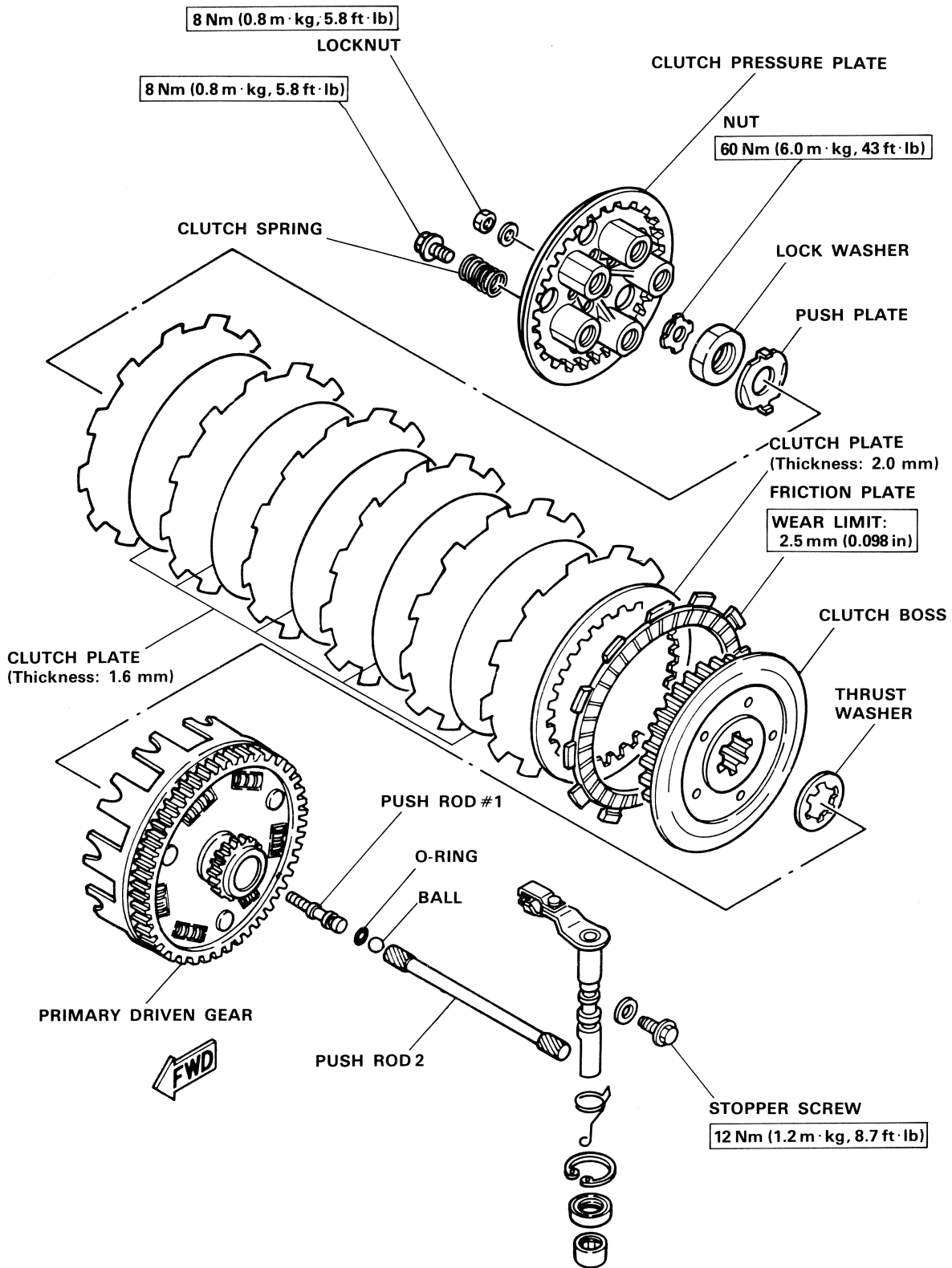
Number of shift fork faces toward left-side crankcase.

CRANKSHAFT



The crankshaft oil passage and the crank pin oil passage **MUST** be properly aligned. The deviation of one center line from the other must be **LESS THAN 1.0 mm (0.04 in)**.

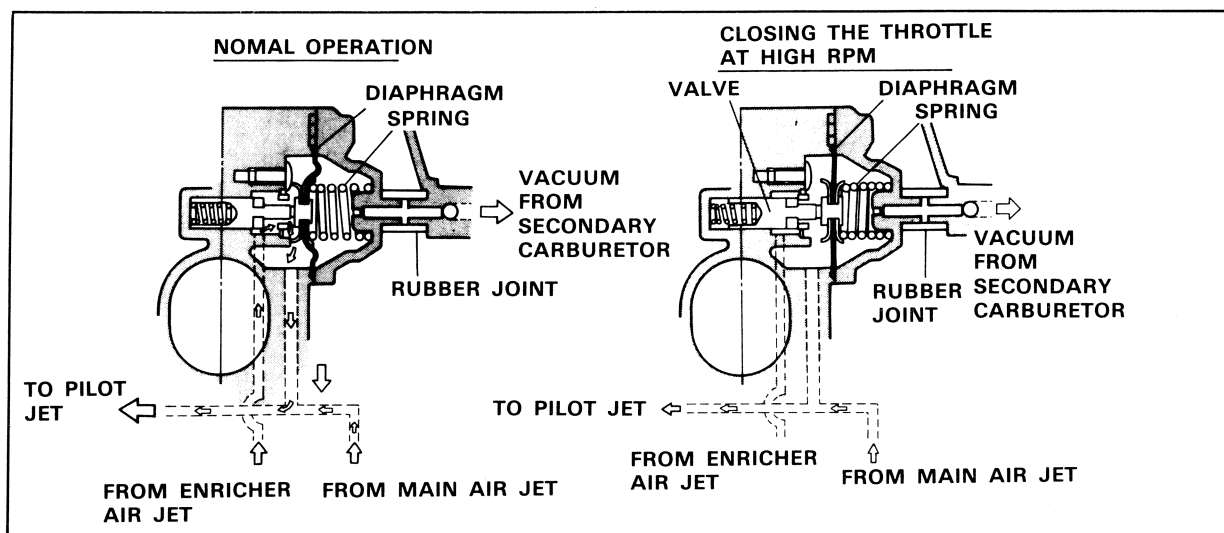
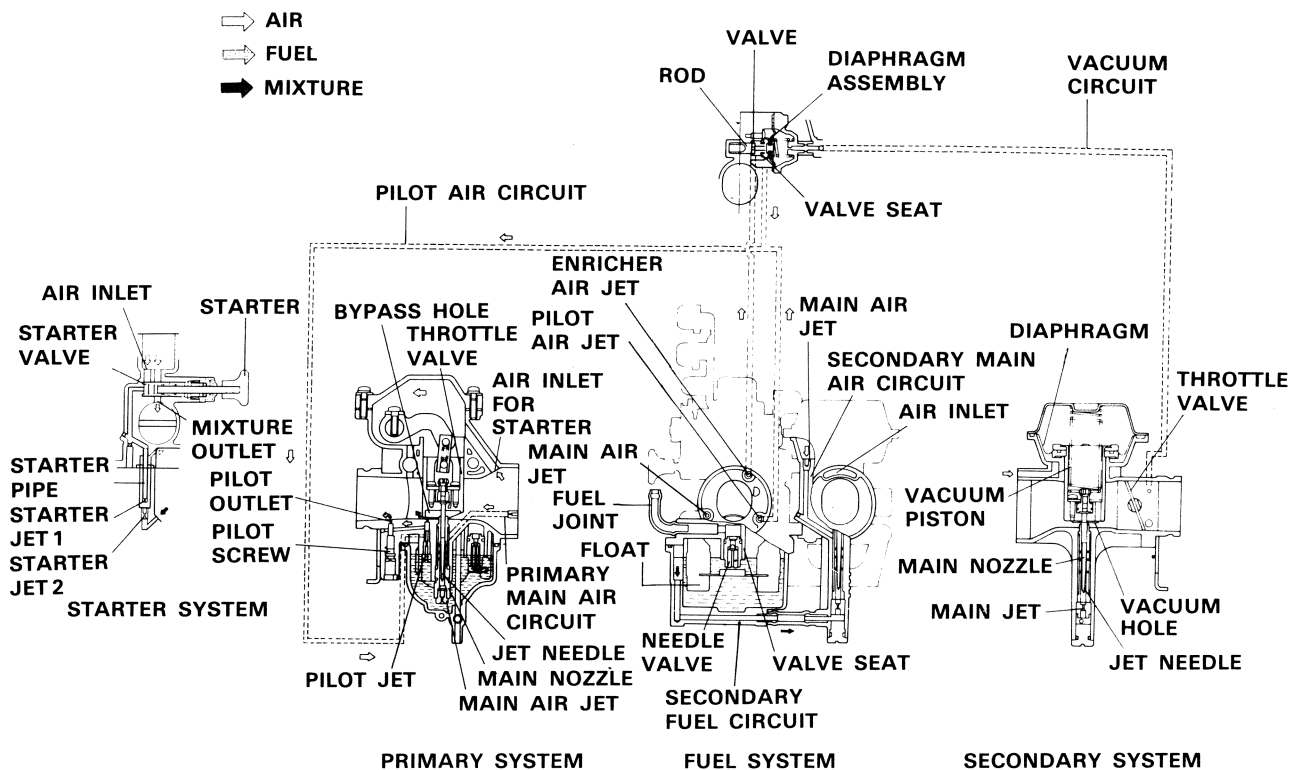
CLUTCH



* When installing, align mark (○) on clutch both with mark (⤴) clutch pressure plate.

COASTING ENRICHER

This model is equipped with an afterburning protection device (coasting enricher).



OPERATION OF ENRICHER

The air valve is pulled left by the negative pressure developed as the result of the sudden closing of the throttle valve.

Thus, the enricher air passage is closed at the air valve seat and the air which flows into the pilot air passage is stopped, enabling only the air from the slow air jet to flow into the pilot air passage.

This makes the air-fuel mixture flow to the pilot outlet and bypass port now relatively richer.

CARBURETOR SYNCRONIZATION

PRIMARY CARB. FULL-OPEN ADJUSTMENT

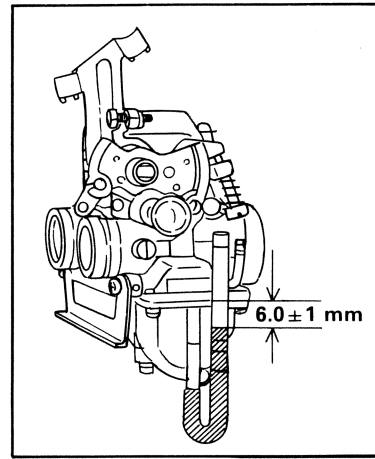
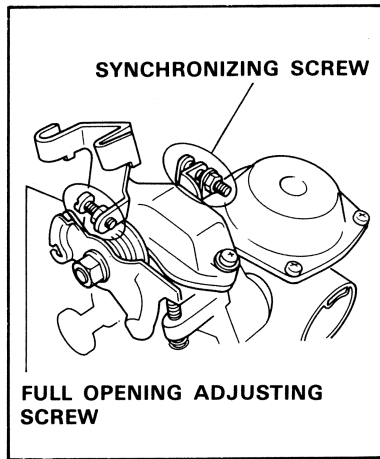
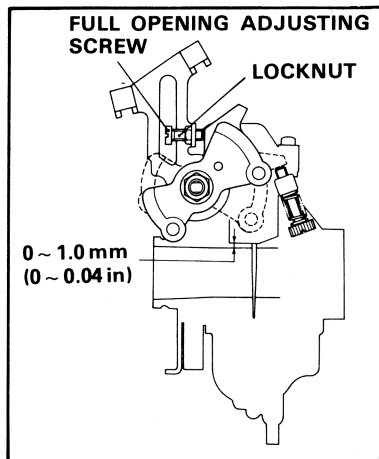
Turn the grip to move the drum-wire assembly to the full-throttle position. Then turn the full-open adjusting screw in or out so the carb valve bottom is positioned within the limits as specified, then secure the locknut on it.

Fuel Level:

6.0 ± 1.0 mm (0.24 ± 0.04 in)
below the carb body edge

Float Height:

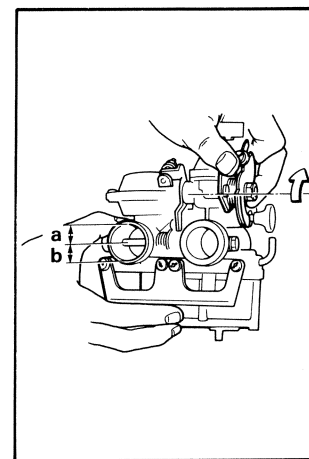
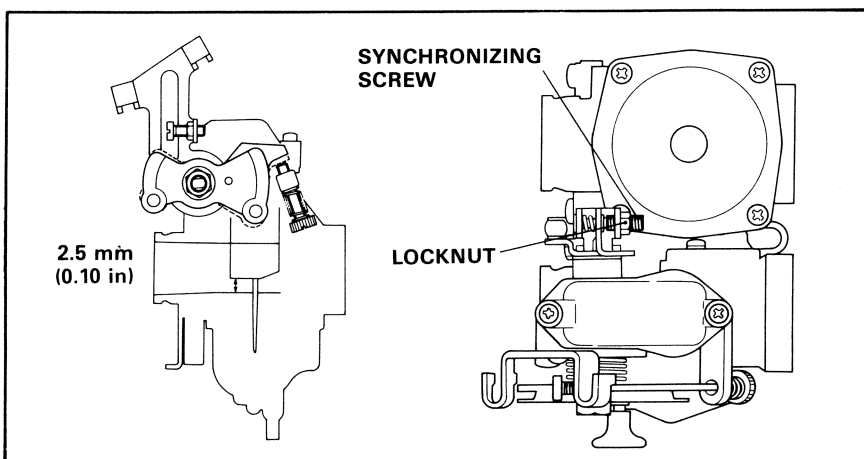
27.0 ± 2.5 mm (1.06 ± 0.10 in)



SECONDARY CARB—SYNCHRONIZATION

Raise the primary carb valve to a height of 2.5 mm (0.10 in) as indicated. Then adjust the synchronizing screw so the secondary throttle shaft just contacts the secondary throttle push lever.

As the primary carb valve is further opened, the secondary butterfly valve will finally be opened to its full horizontal position. (a = b)



CHASSIS

FRONT FORK

FRONT FORK AIR PRESSURE:
 STD: 0 kPa (0 kg/cm², 0 psi)
 MAX: 20 kPa (0.2 kg/cm², 3 psi)

* Level top of inner tube with top of steering crown.

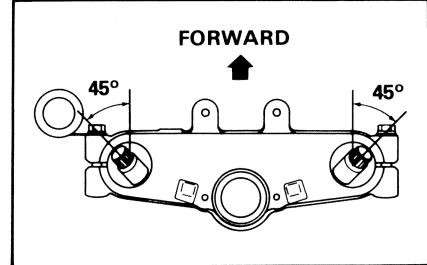
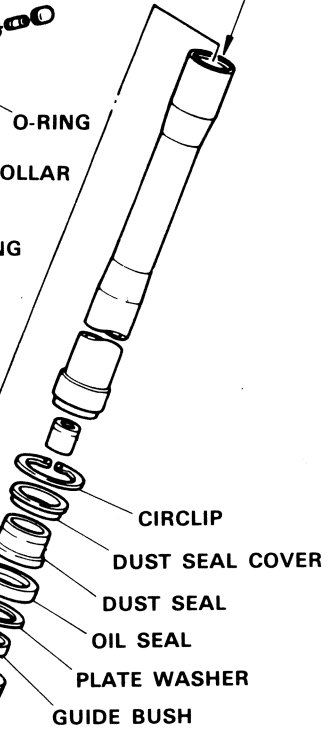
FORK OIL (EACH LEG):
 319 cm³ (11.2 Imp oz, 10.8 US oz)
OIL LEVEL:
 226 mm (8.90 in)
OIL:
 Fork oil 10 wt

23 Nm (2.3 m · kg, 17 ft · lb)

FORK SPRING
 FREE LENGTH: 580 mm
 LIMIT: 575 mm (22.638 in)



35 Nm (2.3 m · kg, 17 ft · lb)



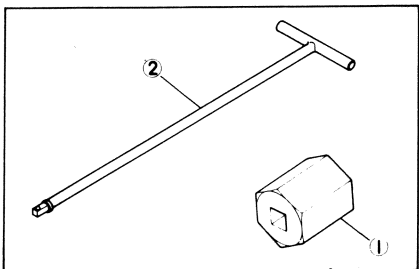
DRAIN BOLT
 1.5 Nm (0.15 m · kg, 1.45 ft · lb)

WASHER

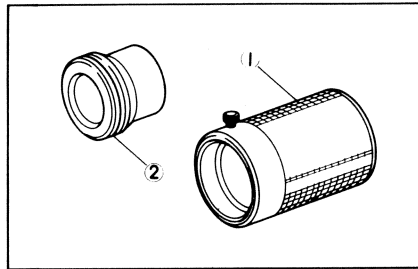
23 Nm (2.3 m · kg, 17 ft · lb)
 APPLY LOCTITE

- Front-fork-cylinder Holder (22 mm (0.87 in))
 P/N. YM33298;5 ①
- T-handle
 P/N. YM0132611 ②

- Front-fork-oil-seal and Guide-bush Installing
 Tool
 Weight
 P/N. YM33963;7 ①
- Adapter
 P/N. YM8010A*0 ②

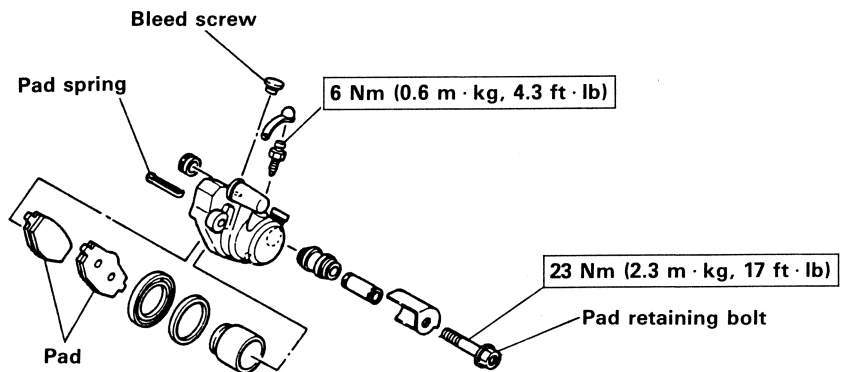
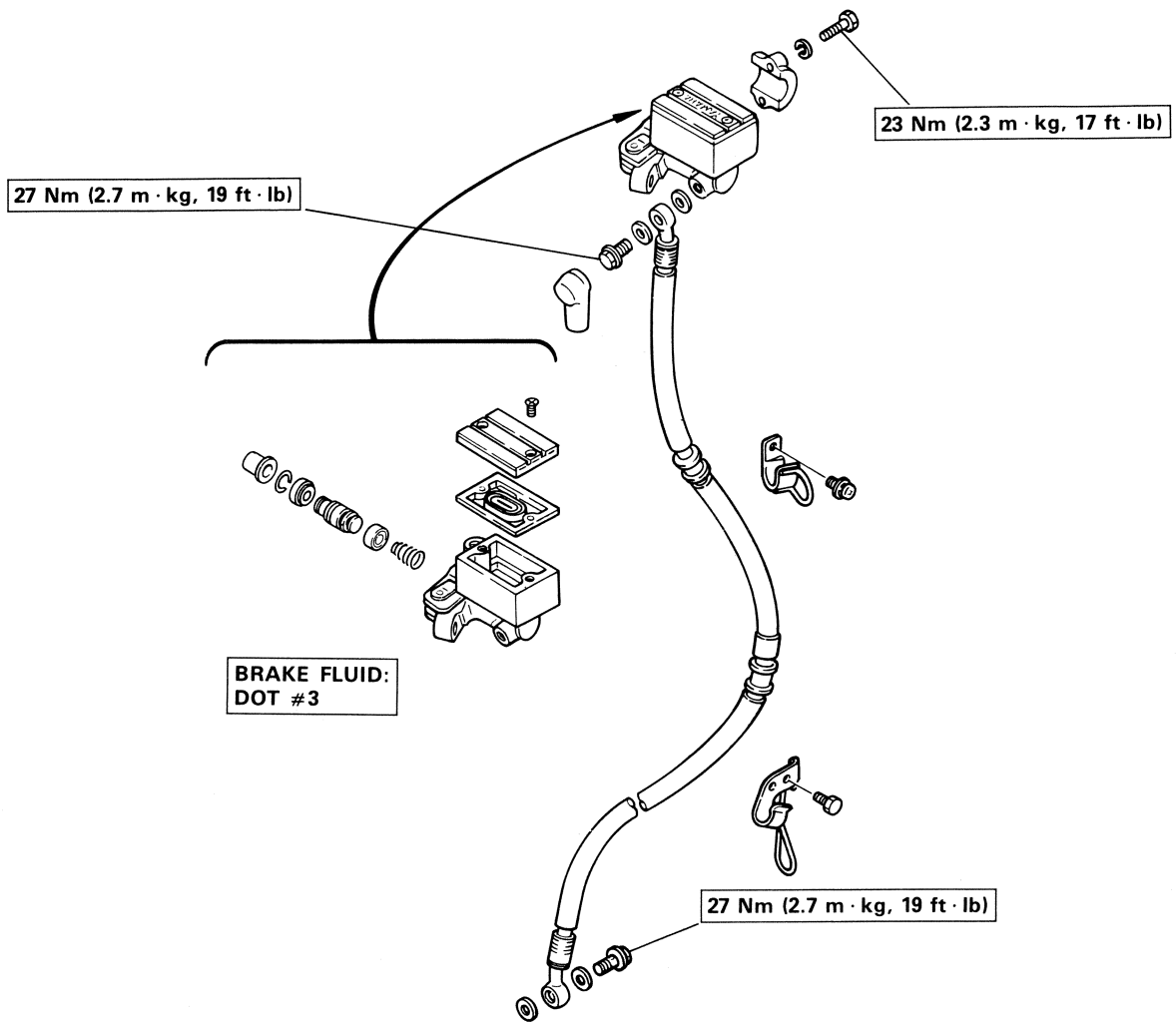


These tools are used to loosen and/or tighten the front-fork-cylinder bolt.



These tools are used when installing guide bush and/or oil seal into the outer fork tube.

FRONT BRAKE



BRAKE PAD

Brake Pad Replacement

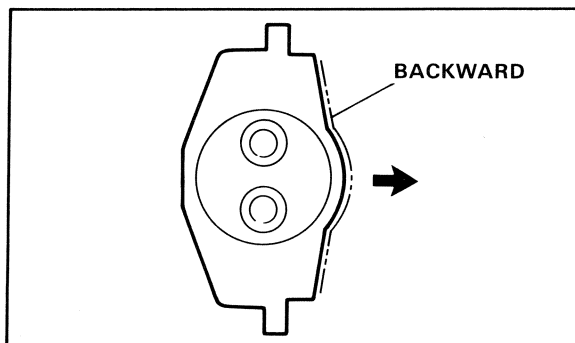
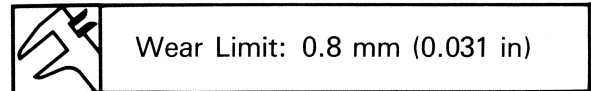
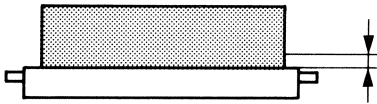
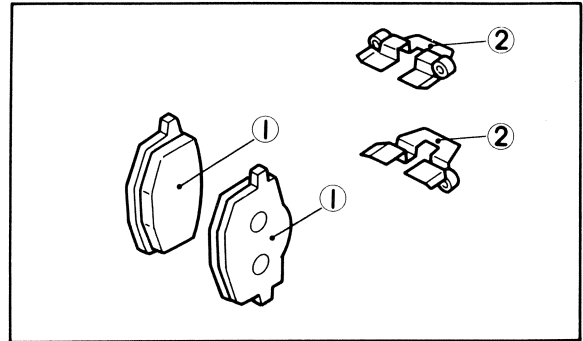
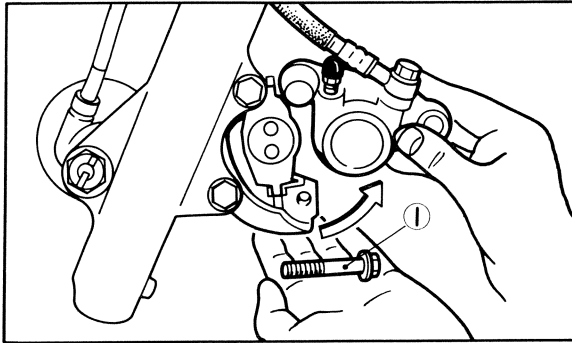
It is not necessary to disassemble the brake caliper and brake hose to replace the brake pads.

1. Remove the retaining bolt ①.
2. Turn the caliper body counterclockwise.

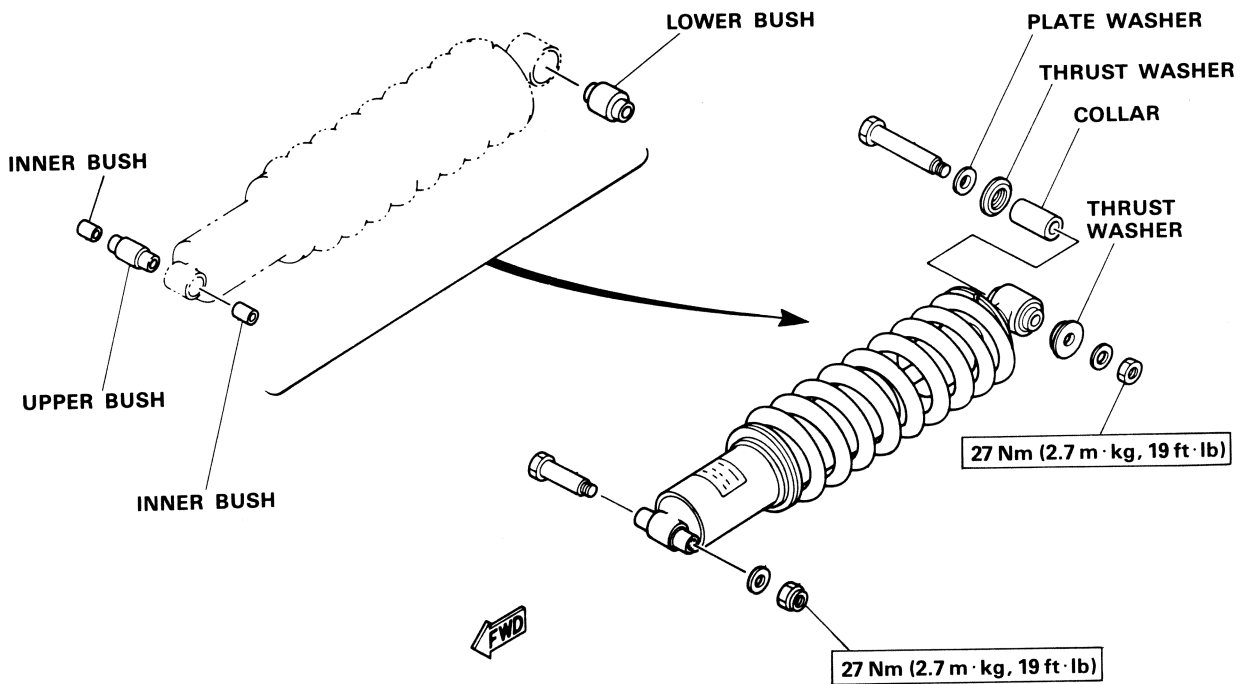
3. Remove the pads ① and pad springs ②.

NOTE:

- Replace the pad springs as a set if pad replacement is required.
- Replace the pads as a set if either is found to be worn to the wear limit.

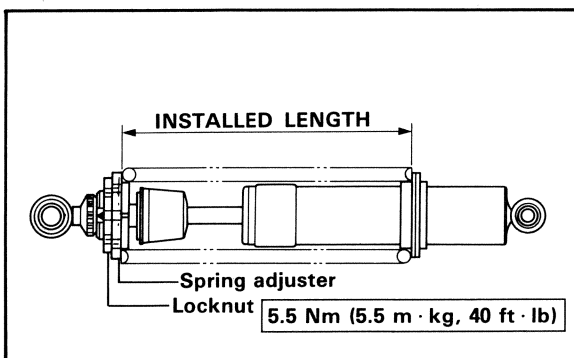
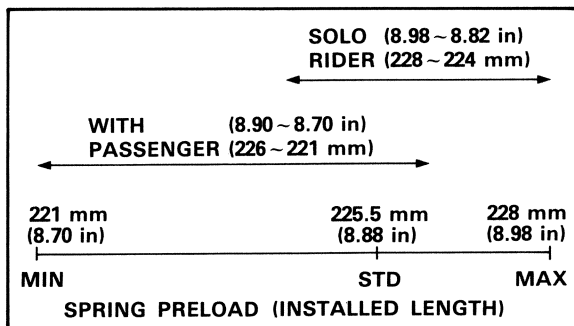


REAR SHOCK



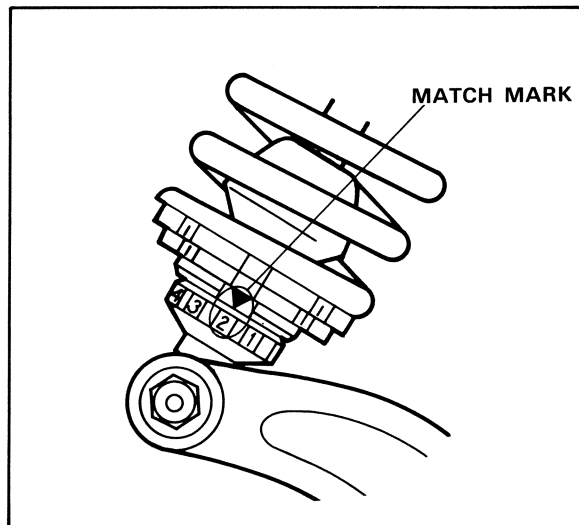
[SPRING PRELOAD]

To increase the preload, turn the spring adjuster clockwise. To decrease the preload, turn the spring adjuster counterclockwise. One complete turn of the adjuster will change the preload 1 mm (0.04 in).



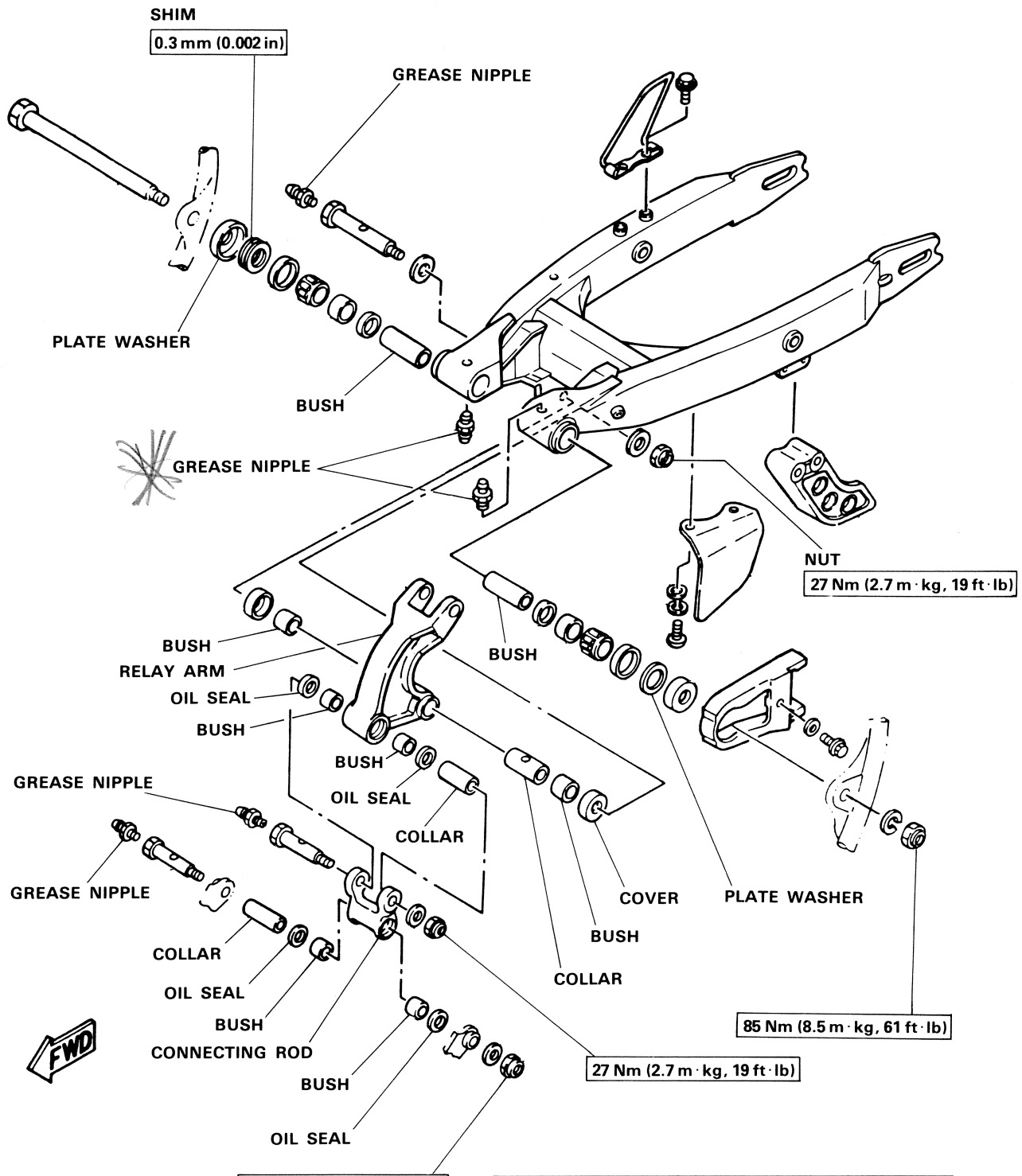
[DAMPING ADJUSTER]

	Stiffer			STD	Softer
Adjusting Position	5	4	3	2	1



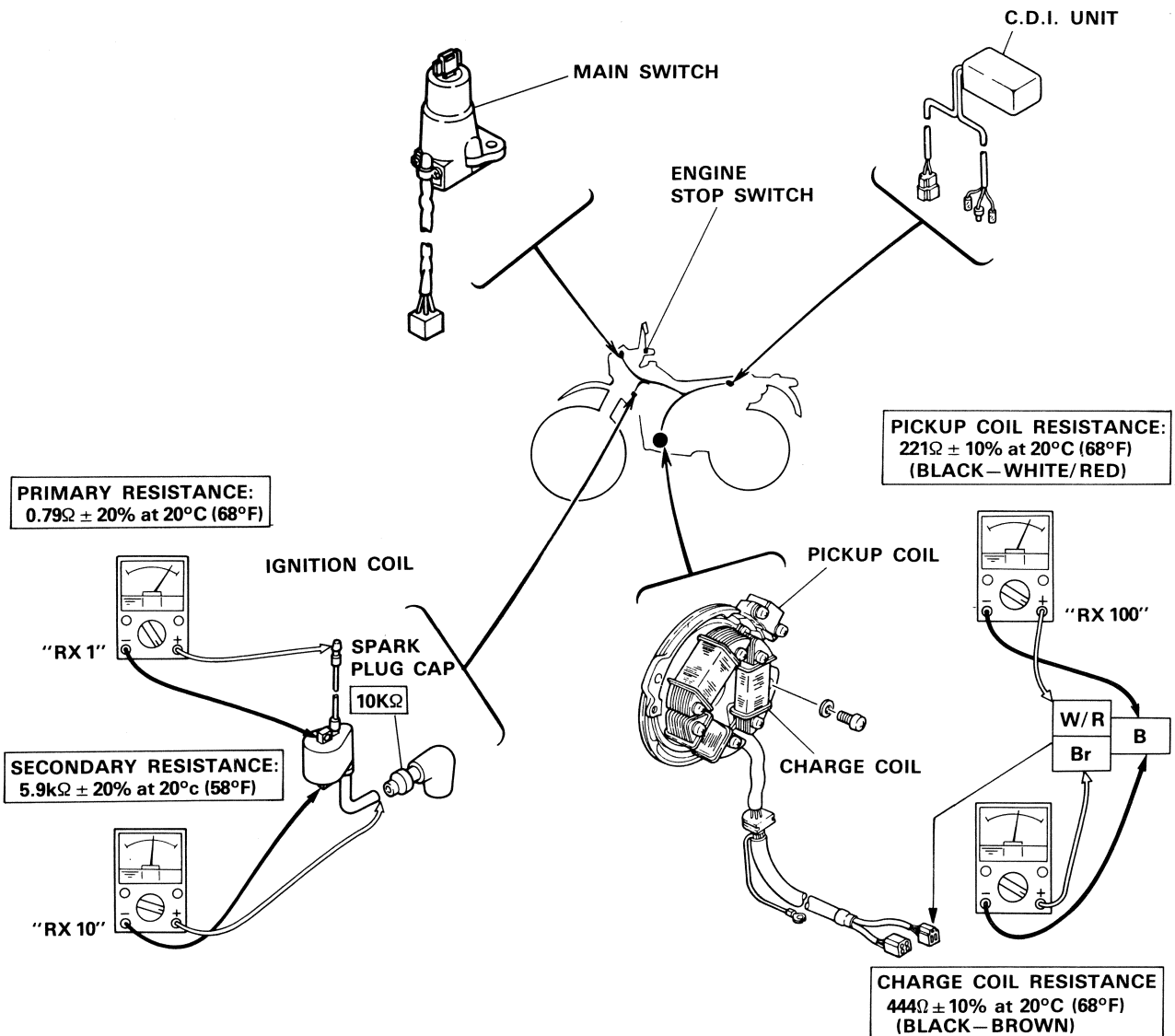
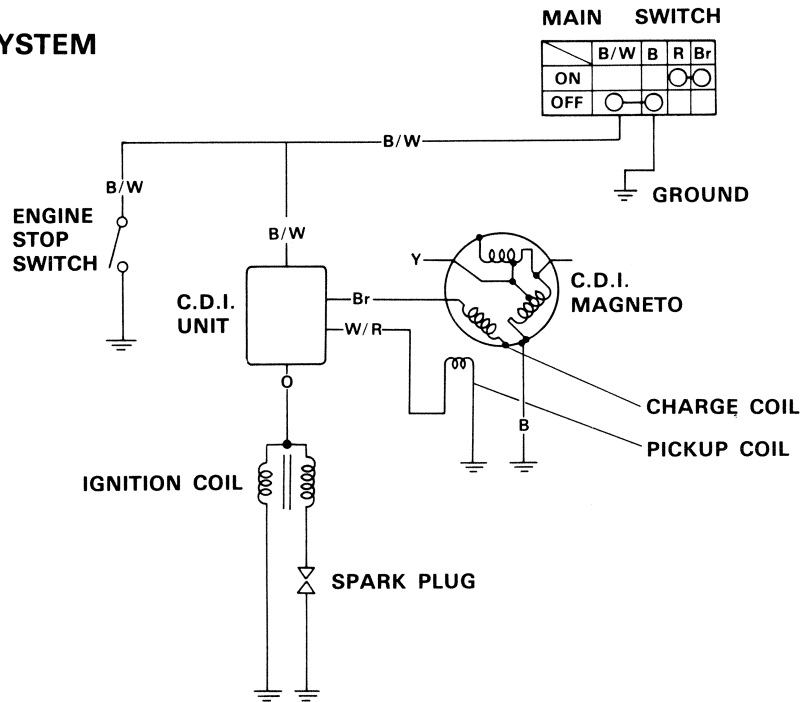
REAR ARM

grease fittings on S.A.

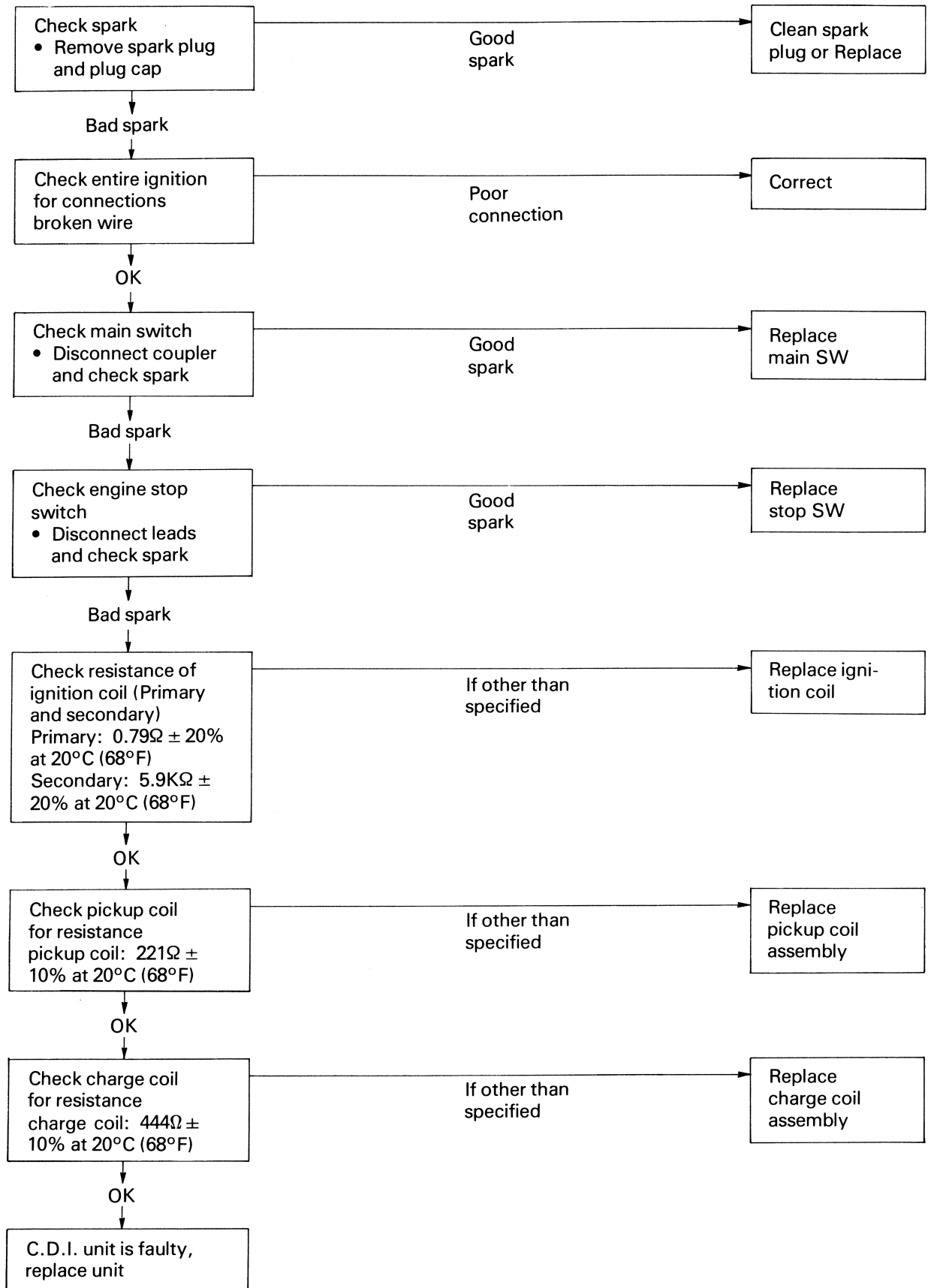


Lubrication intervals: 6,000 km
High quality, lithium-base grease

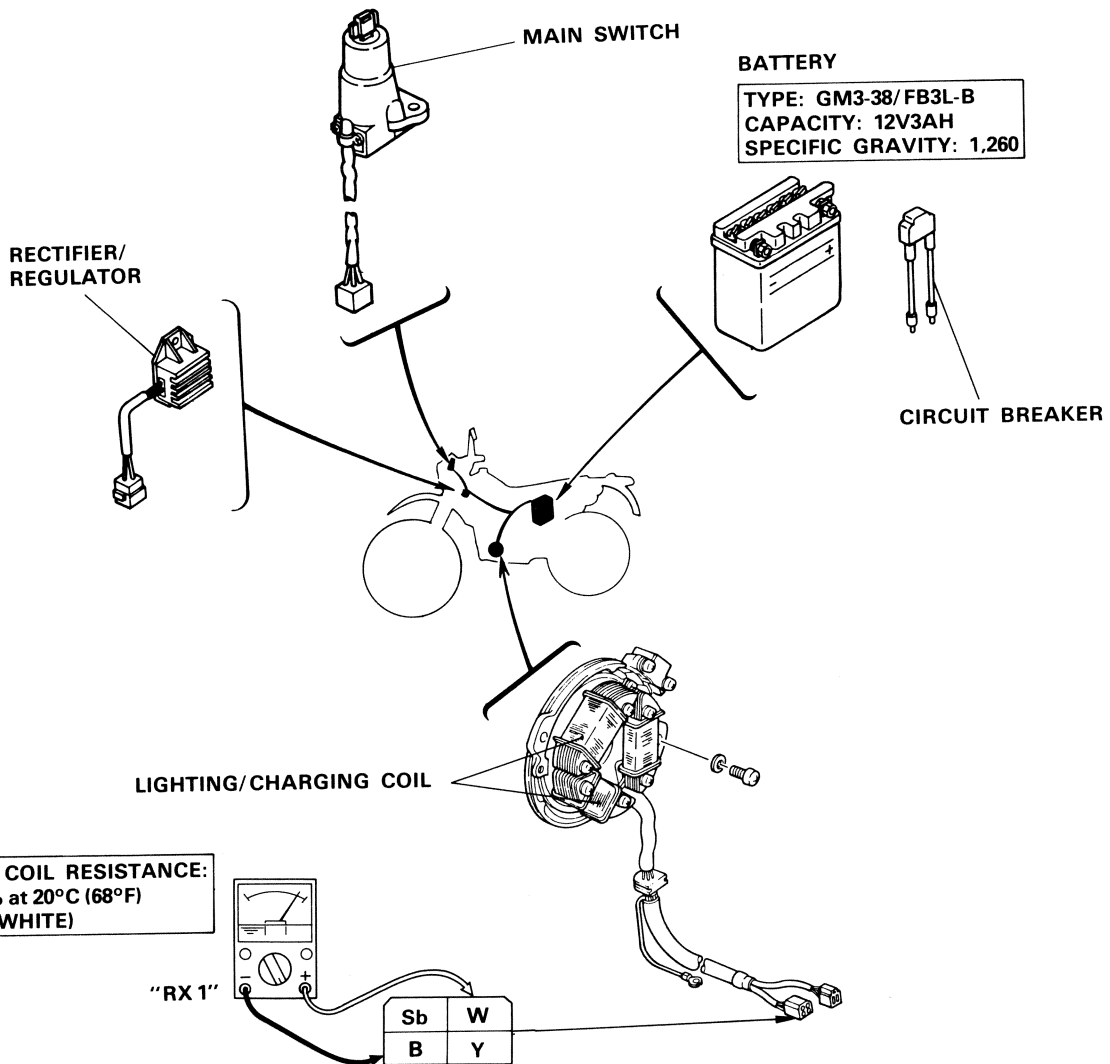
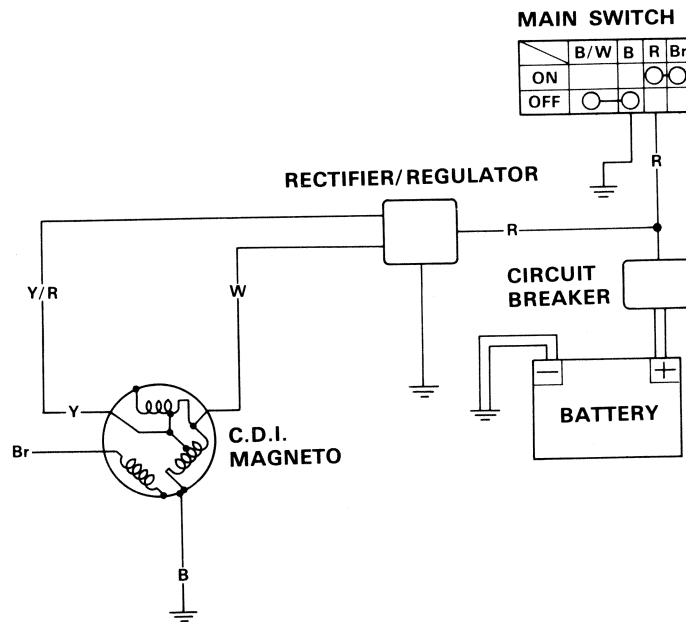
ELECTRICAL IGNITION SYSTEM



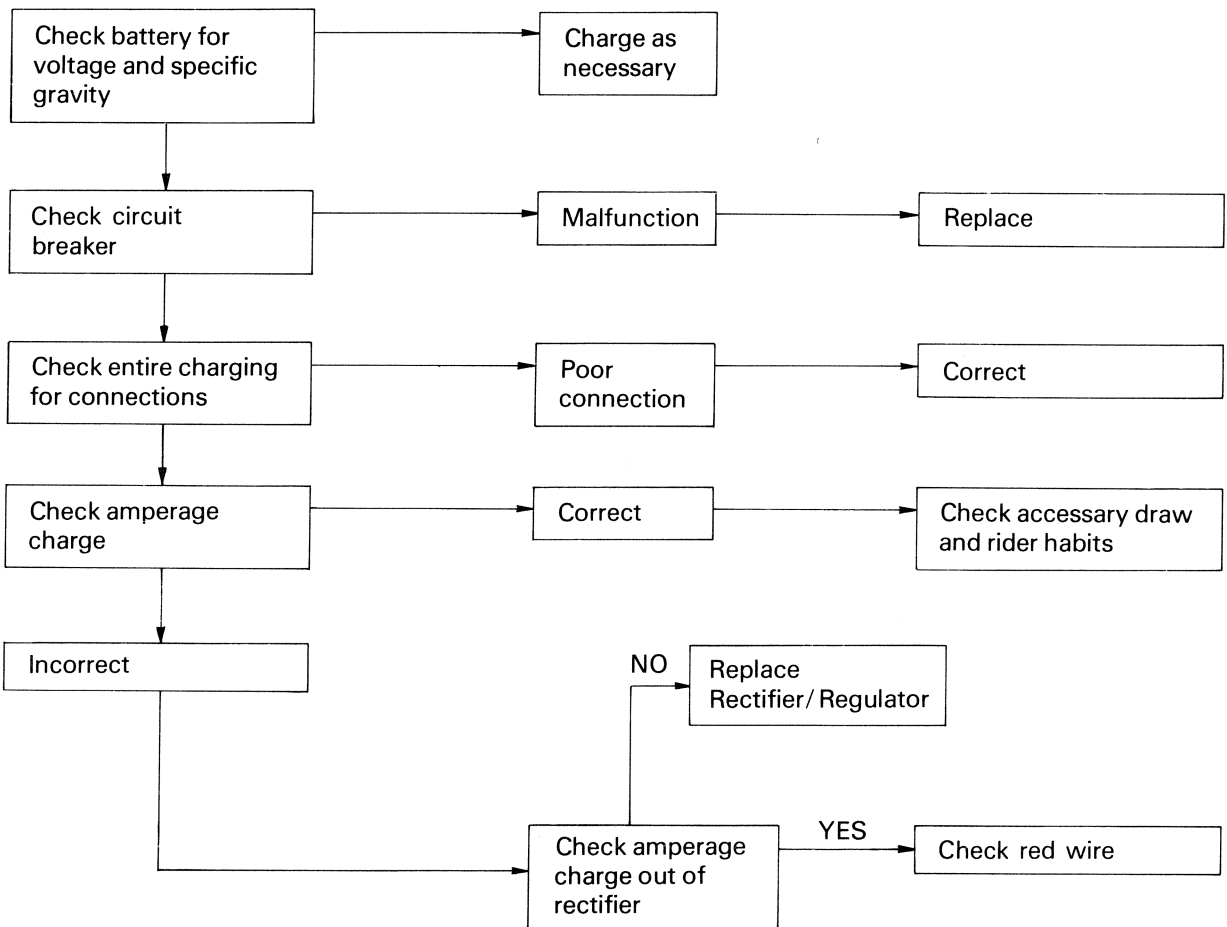
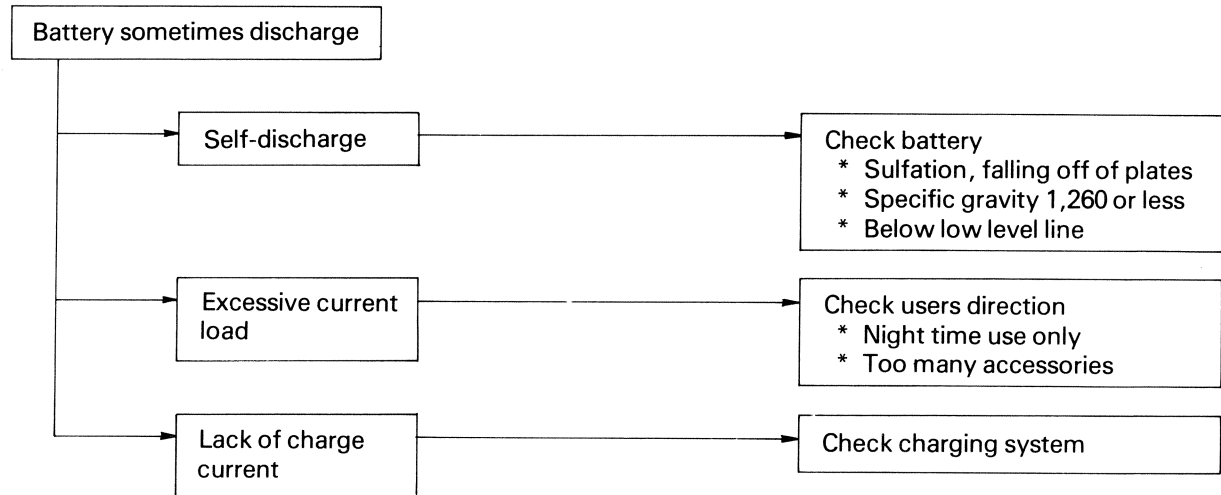
TROUBLESHOOTING



CHARGING SYSTEM

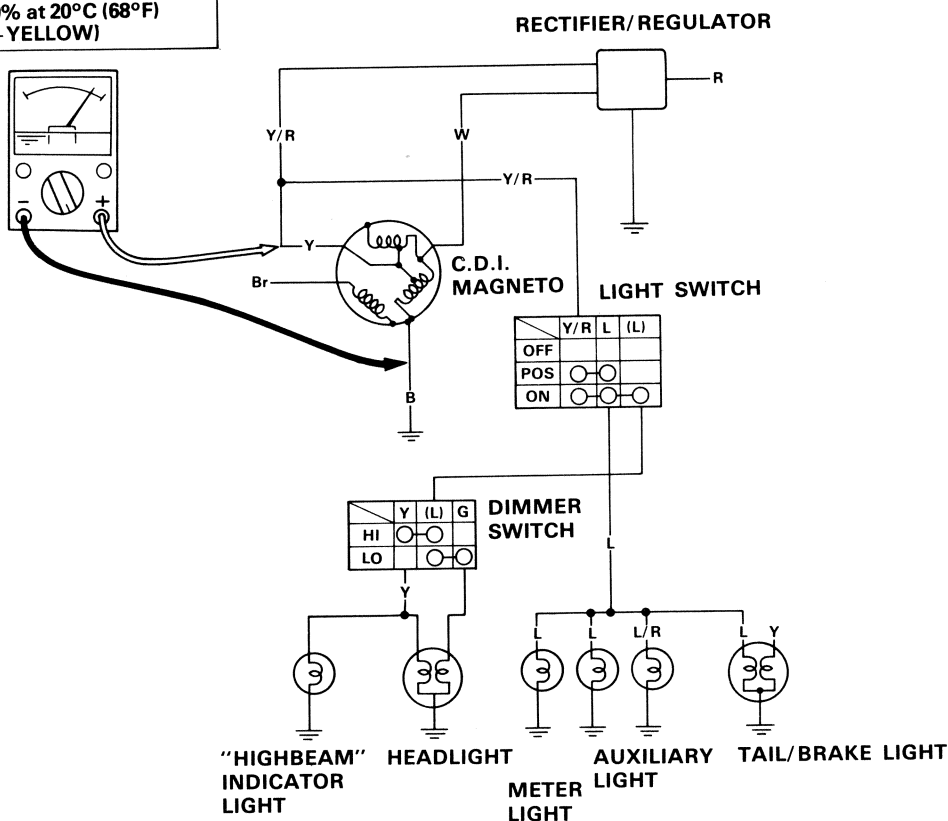


TROUBLESHOOTING

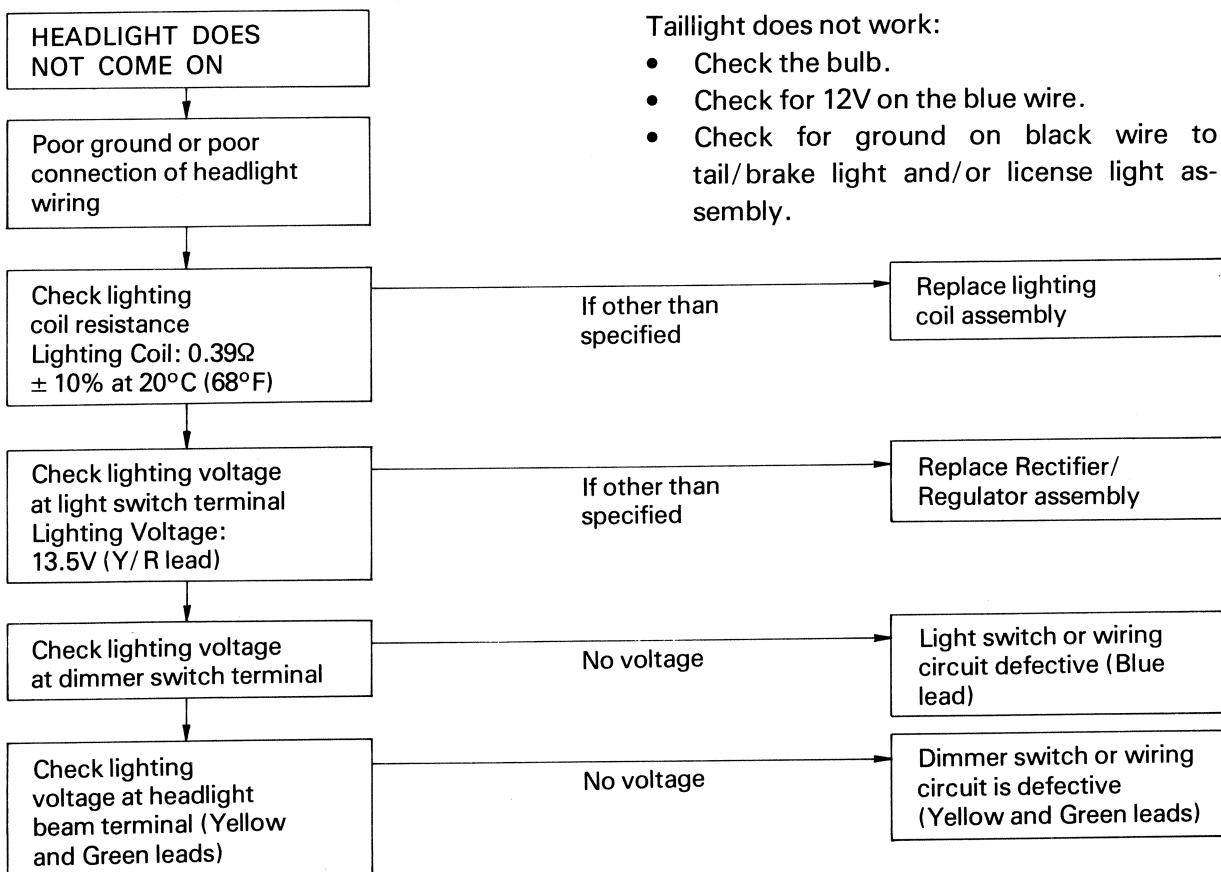


LIGHTING SYSTEM

LIGHTING COIL RESISTANCE:
 $0.39\Omega \pm 10\%$ at 20°C (68°F)
 (BLACK - YELLOW)



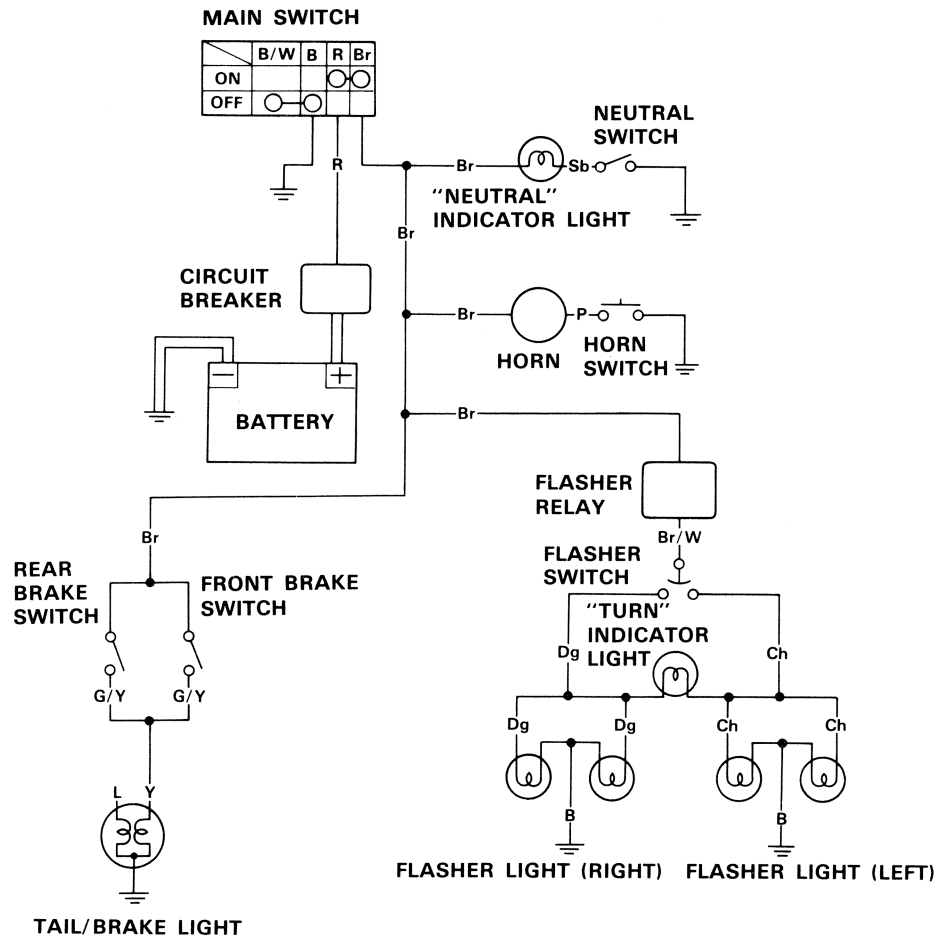
TROUBLESHOOTING



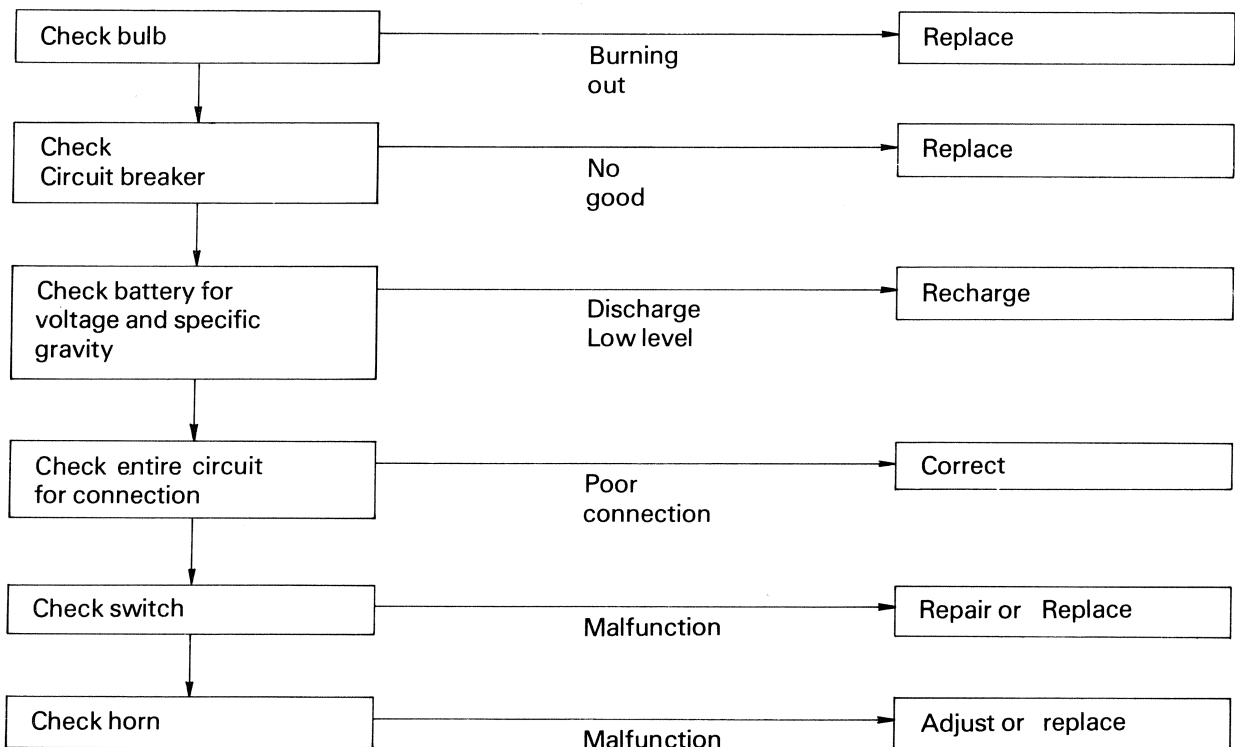
Taillight does not work:

- Check the bulb.
- Check for 12V on the blue wire.
- Check for ground on black wire to tail/brake light and/or license light assembly.

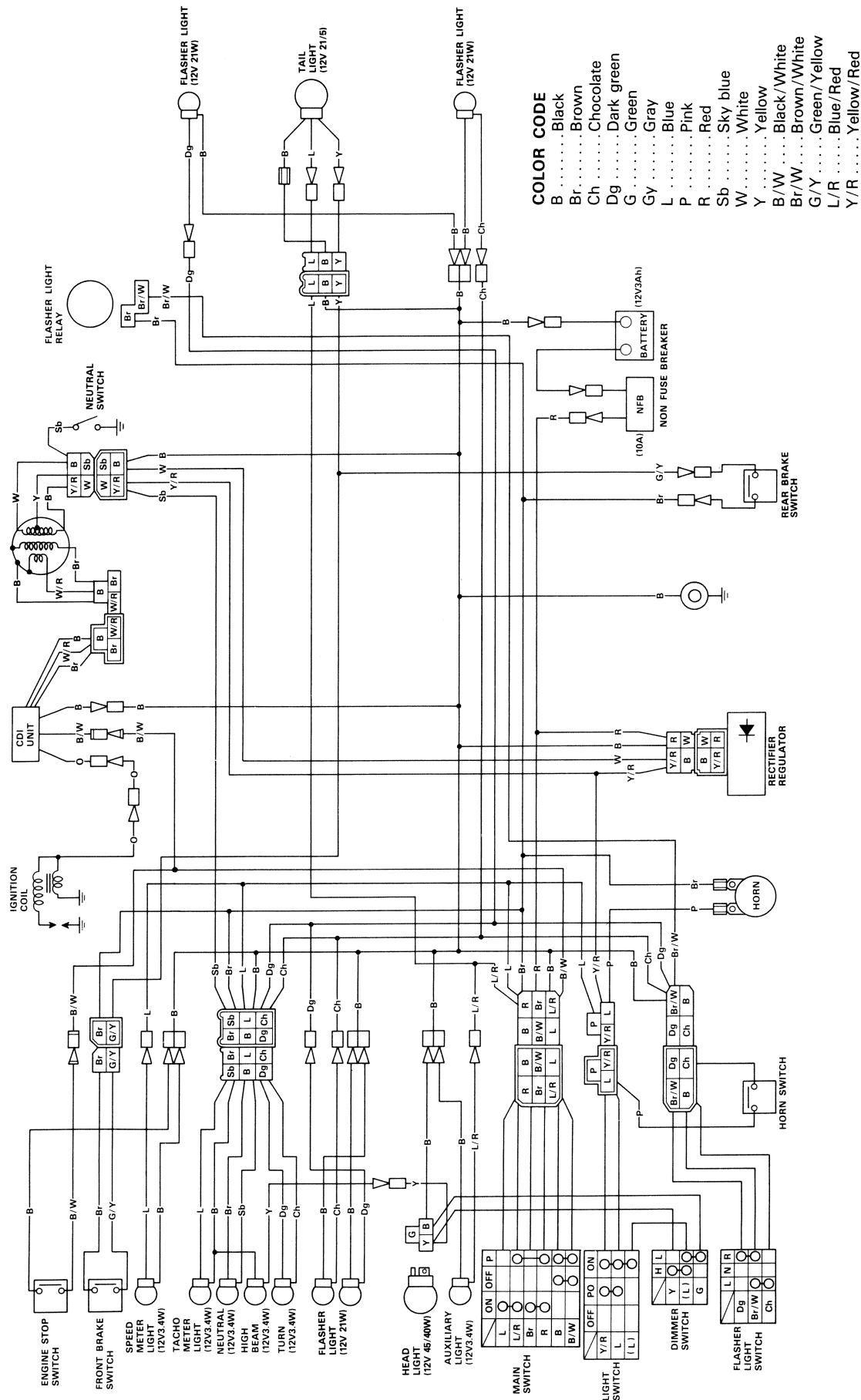
SIGNAL SYSTEM



TROUBLESHOOTING



WIRING DIAGRAM



YAMAHA MOTOR CORPORATION, U.S.A.

PRINTED IN U.S.A.

