

## SUZUKI

## ALT125, LT125, ALT185 AND LT185

NOTE: Metric fasteners are used throughout vehicle.

## CONDENSED SERVICE DATA

MODELS	ALT125D, E, F, G LT125D, E, F, G, H	ALT185F LT185E, F, G, H
<b>General</b>		
Engine Make .....	Suzuki	Suzuki
Engine Type .....	Four-Stroke; Air-Cooled	Four-Stroke; Air-Cooled
Number of Cylinders .....	1	1
Bore .....	57.0 mm (2.244 in.)	63.0 mm (2.480 in.)
Stroke .....	48.8 mm (1.921 in.)	57.0 mm (2.244 in.)
Displacement .....	124 cc (7.5 cu. in.)	178 cc (10.9 cu. in.)
Compression Ratio .....	8.5:1	9.0:1
Fuel Recommended .....	Unleaded or Low-Lead	Unleaded or Low-Lead
Pump Octane Rating .....	85-95	85-95
Engine Lubrication .....	Wet Sump; Pump	Wet Sump; Pump
Engine/Transmission Oil Recommendation .....	SAE 10W-40	SAE 10W-40
Forward Speeds .....	5	5
Reverse Speeds .....	1	1
Tire Size:		
ALT Models—		
Front .....	22 x 11.00-8	22 x 11.00-8
Rear .....	22 x 11.00-8	22 x 11.00-8
LT Models—		
Front .....	20 x 7.00-8	20 x 7.00-8
Rear .....	22 x 11.00-8	22 x 11.00-8
Tire Pressures-All Models (cold):		
Front & Rear .....	15 kPa (2.2 psi)	15 kPa (2.2 psi)
Dry Weight:		
ALT Models .....	118 kg (260 lbs.)	125 kg (276 lbs.)
LT Models .....	129 kg (284 lbs.)	138 kg (304 lbs.)
<b>Tune-Up</b>		
Engine Idle Speed .....	1500-1600 rpm	1350-1450 rpm
Spark Plug:		
NGK .....	D7EA	D7EA
Nippon Denso .....	X22ES-U	X22ES-U
Electrode Gap .....	0.6-0.7 mm (0.024-0.028 in.)	0.6-0.7 mm (0.024-0.028 in.)
Ignition:		
Type .....	Breakerless	Breakerless
Timing .....	See Text	See Text

**MODELS**  
**Tune-Up (Cont.)**

## Carburetor:

 Make .....  
 Model .....  
 Float Height .....

**ALT125D, E, F, G**  
**LT125D, E, F, G, H**

 Mikuni  
 VM20SS  
 24.8-26.8 mm  
 (0.98-1.06 in.)

**ALT185F**  
**LT185E, F, G, H**

 Mikuni  
 VM22SS  
 24.8-26.8 mm  
 (0.98-1.06 in.)

 Jet Needle .....  
 Clip Position .....

 4JR39  
 2nd Groove  
 From Top

 5L15  
 3rd Groove  
 From Top

 Throttle Cutaway .....  
 Pilot Jet .....  
 Needle Jet .....  
 Main Jet .....

 3.0  
 #20  
 0-4  
 #100

 2.0  
 #20  
 0-2  
 #115

## Throttle Cable

Free-Play .....

 0.5-1.0 mm  
 (0.02-0.04 in.)

 0.5-1.0 mm  
 (0.02-0.04 in.)
**Sizes-Clearances**

## Valve Clearance (cold):

Intake &amp; Exhaust .....

 0.08-0.13 mm  
 (0.003-0.005 in.)

 0.08-0.13 mm  
 (0.003-0.005 in.)

Valve Face Angle .....

45°

45°

Valve Seat Angle .....

45°

45°

Valve Seat Width .....

 0.9-1.1 mm  
 (0.035-0.043 in.)

 0.9-1.1 mm  
 (0.035-0.043 in.)

## Valve Stem Diameter:

Intake .....

 5.475-5.490 mm  
 (0.2155-0.2161 in.)

 5.475-5.490 mm  
 (0.2155-0.2161 in.)

Exhaust .....

 5.455-5.470 mm  
 (0.2148-0.2153 in.)

 5.455-5.470 mm  
 (0.2148-0.2153 in.)

## Valve Guide Bore

Diameter:

Intake And Exhaust .....

 5.500-5.512 mm  
 (0.2165-0.2170 in.)

 5.500-5.512 mm  
 (0.2165-0.2170 in.)

## Valve Stem-To-Guide

Clearance:

Intake .....

 0.010-0.037 mm  
 (0.0004-0.0015 in.)

 0.010-0.037 mm  
 (0.0004-0.0015 in.)

Exhaust .....

 0.030-0.057 mm  
 (0.0012-0.0022 in.)

 0.030-0.057 mm  
 (0.0012-0.0022 in.)

## Valve Spring Free

Length (Min.):

Inner .....

 35.1 mm  
 (1.38 in.)

 35.1 mm  
 (1.38 in.)

Outer .....

 39.9 mm  
 (1.57 in.)

 39.9 mm  
 (1.57 in.)

## Rocker Arm Bore Diameter:

Intake And Exhaust .....

 12.000-12.018 mm  
 (0.4724-0.4731 in.)

 12.000-12.018 mm  
 (0.4724-0.4731 in.)

## Rocker Shaft Diameter:

Intake And Exhaust .....

 11.977-11.995 mm  
 (0.4715-0.4722 in.)

 11.977-11.995 mm  
 (0.4715-0.4722 in.)

## Camshaft Lobe Height:

Intake .....

 32.400-32.440 mm  
 (1.2756-1.2772 in.)

 33.780-33.820 mm  
 (1.3299-1.3315 in.)

Wear Limit .....

 32.100 mm  
 (1.2638 in.)

 33.480 mm  
 (1.3181 in.)

Exhaust .....

 32.400-32.440 mm  
 (1.2756-1.2772 in.)

 32.990-33.030 mm  
 (1.2988-1.3004 in.)

Wear Limit .....

 32.100 mm  
 (1.2638 in.)

 32.690 mm  
 (1.2870 in.)

# Suzuki ALT125, LT125, ALT185 & LT185

MODELS	ALT125D, E, F, G LT125D, E, F, G, H	ALT185F LT185E, F, G, H
<b>Sizes-Clearances (Cont.)</b>		
Camshaft Journal Diameter .....	21.970-21.991 mm (0.8649-0.8658 in.)	21.959-21.980 mm (0.8645-0.8654 in.)
Camshaft Journal Clearance .....	0.021-0.055 mm (0.0008-0.0022 in.)	0.032-0.066 mm (0.0013-0.0026 in.)
Wear Limit .....	0.150 mm (0.0059 in.)	0.150 mm (0.0059 in.)
Camshaft Runout (Max.) .....	0.10 mm (0.004 in.)	0.10 mm (0.004 in.)
Cylinder Head Cover Distortion (Max.) .....	0.05 mm (0.002 in.)	0.05 mm (0.002 in.)
Cylinder Head Distortion (Max.) .....	0.05 mm (0.002 in.)	0.05 mm (0.002 in.)
Piston-to-Cylinder Wall Clearance .....	0.035-0.045 mm (0.0014-0.0018 in.)	0.030-0.040 mm (0.0012-0.0016 in.)
Cylinder Bore Diameter .....	57.000-57.015 mm (2.2441-2.2447 in.)	63.000-63.015 mm (2.4803-2.4809 in.)
Wear Limit .....	57.095 mm (2.2478 in.)	63.100 mm (2.4842 in.)
Cylinder Bore Distortion (Max.) .....	0.05 mm (0.002 in.)	0.05 mm (0.002 in.)
Piston Diameter Measured 15 mm (0.59 in.) from Skirt Bottom .....	56.960-56.975 mm (2.2425-2.2431 in.)	62.965-62.980 mm (2.4789-2.4795 in.)
Wear Limit .....	56.880 mm (2.2394 in.)	62.880 mm (2.4756 in.)
Piston Pin Bore Diameter in Piston .....	14.002-14.008 mm (0.5513-0.5514 in.)	14.002-14.008 mm (0.5513-0.5514 in.)
Wear Limit .....	14.030 mm (0.5524 in.)	14.030 mm (0.5524 in.)
Piston Pin Diameter .....	13.995-14.000 mm (0.5510-0.5512 in.)	13.994-14.002 mm (0.5509-0.5513 in.)
Wear Limit .....	13.980 mm (0.5504 in.)	13.980 mm (0.5504 in.)
Piston Ring End Gap in Standard Bore .....	0.10-0.25 mm (0.004-0.010 in.)	0.10-0.25 mm (0.004-0.010 in.)
Wear Limit .....	0.70 mm (0.028 in.)	0.70 mm (0.028 in.)
Piston Ring Side Clearance in Piston (Max.):		
Top .....	0.180 mm (0.0071 in.)	0.180 mm (0.0071 in.)
Second .....	0.150 mm (0.0059 in.)	0.150 mm (0.0059 in.)
Connecting Rod Small End Bore Diameter .....	14.004-14.012 mm (0.5513-0.5516 in.)	14.006-14.014 mm (0.5514-0.5517 in.)
Wear Limit .....	14.040 mm (0.5528 in.)	14.040 mm (0.5528 in.)

**MODELS****ALT125D, E, F, G  
LT125D, E, F, G, H****ALT185F  
LT185E, F, G, H****Sizes-Clearances (Cont.)**

Connecting Rod Small End Side Shake (Max.) .....	3.0 mm (0.12 in.)	3.0 mm (0.12 in.)
Crankshaft Runout at Main Bearing Journal (Max.) .....	0.05 mm (0.002 in.)	0.05 mm (0.002 in.)

**Capacities**

Fuel Tank .....	5.0 L (1.3 gal.)	8.0 L (2.11 gal.)
Engine/Transmission Oil .....	See Text	See Text

**Tightening Torques**

Camshaft Sprocket Bolt .....	10-13 N·m (7.0-9.5 ft.-lbs.)	10-13 N·m (7.0-9.5 ft.-lbs.)
Clutch Hub Nut .....	40-60 N·m (29.0-43.5 ft.-lbs.)	60-80 N·m (43.5-58.0 ft.-lbs.)
Cylinder Base Nut .....	7-11 N·m (5-8 ft.-lbs.)	7-11 N·m (5-8 ft.-lbs.)
Cylinder Head Cover Bolt .....	9-10 N·m (6.5-7.0 ft.-lbs.)	9-11 N·m (6.5-8.0 ft.-lbs.)
Cylinder Head Nut:		
6 mm .....	7-11 N·m (5-8 ft.-lbs.)	7-11 N·m (5-8 ft.-lbs.)
8 mm .....	15-20 N·m (11.0-14.5 ft.-lbs.)	15-20 N·m (11.0-14.5 ft.-lbs.)
Engine Mounting Bolts:		
8 mm .....	28-34 N·m (20.0-24.5 ft.-lbs.)	28-34 N·m (20.0-24.5 ft.-lbs.)
10 mm .....	80-95 N·m (58.0-68.5 ft.-lbs.)	80-95 N·m (58.0-68.5 ft.-lbs.)
Engine Sprocket Nut .....	80-100 N·m (58.0-72.5 ft.-lbs.)	100-130 N·m (72.5-94.0 ft.-lbs.)
Flywheel Nut .....	50-60 N·m (36.0-43.5 ft.-lbs.)	50-60 N·m (36.0-43.5 ft.-lbs.)
Front Axle Nut:		
ALT Models .....	36-52 N·m (26.0-37.5 ft.-lbs.)	36-52 N·m (26.0-37.5 ft.-lbs.)
LT Models .....	50-80 N·m (36-58 ft.-lbs.)	50-80 N·m (36-58 ft.-lbs.)
Rear Axle Nut .....	85-115 N·m (61.5-83.0 ft.-lbs.)	85-115 N·m (61.5-83.0 ft.-lbs.)
Wheel Retaining Nuts:		
Front—		
ALT Models .....	20-31 N·m (14.5-22.5 ft.-lbs.)	20-31 N·m (14.5-22.5 ft.-lbs.)
Rear—		
ALT Models .....	20-31 N·m (14.5-22.5 ft.-lbs.)	45-65 N·m (32.5-47.0 ft.-lbs.)
LT Models .....	20-31 N·m (14.5-22.5 ft.-lbs.)	45-65 N·m (32.5-47.0 ft.-lbs.)
Wheel Rim Nuts .....	20-31 N·m (14.5-22.5 ft.-lbs.)	.....

# Suzuki ALT125, LT125, ALT185 & LT185

## Tightening Torques (Cont.)

### Standard Screws:

Unmarked or Marked "4"	
4 mm .....	0.9-2.0 N·m (8.4-18.0 in.-lbs.)
5 mm .....	2.0-4.0 N·m (18-36 in.-lbs.)
6 mm .....	4.0-6.8 N·m (36-60 in.-lbs.)
8 mm .....	9.5-15.6 N·m (84-138 in.-lbs.)
10 mm .....	21.7-34.5 N·m (16.0-25.5 ft.-lbs.)
12 mm .....	34.5-54.2 N·m (25.5-40.0 ft.-lbs.)
14 mm .....	48.8-78.6 N·m (36-58 ft.-lbs.)
16 mm .....	78.6-127.4 N·m (58-94 ft.-lbs.)
18 mm .....	127.4-186.4 N·m (94.0-137.5 ft.-lbs.)

### Marked "7"

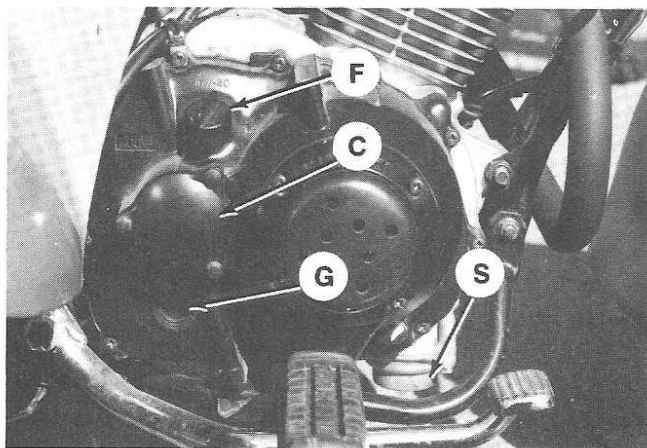
4 mm .....	1.3-2.7 N·m (12-24 in.-lbs.)
5 mm .....	2.7-6.1 N·m (24-54 in.-lbs.)
6 mm .....	8.1-11.5 N·m (72-102 in.-lbs.)
8 mm .....	17.6-27.1 N·m (13-20 ft.-lbs.)
10 mm .....	39.3-58.9 N·m (29.0-43.5 ft.-lbs.)
12 mm .....	68.4-98.3 N·m (50.5-72.5 ft.-lbs.)
14 mm .....	107.7-156.6 N·m (79.5-115.5 ft.-lbs.)
16 mm .....	166.7-245.4 N·m (123-181 ft.-lbs.)
18 mm .....	196.0-274.5 N·m (144.5-202.5 ft.-lbs.)

## LUBRICATION

### All Models

**ENGINE AND TRANSMISSION.** The engine and transmission have a common sump and are lubricated by a crankshaft driven oil pump. Recommended oil is a multigrade SAE 10W-40 motor oil with an API classification of SE or SF.

The sump is filled through filler plug opening (F—Fig. S6-1). Oil level should be maintained at level



**Fig. S6-1—**Engine/transmission sump is filled through filler plug opening (F). Oil level should be maintained at level on sight glass (G). Oil filter is located behind side cover (C) while sump screen is located above screen cap (S).

indicated on sight glass (G). Oil is drained by removing plug in underside of crankcase. Dry capacity of crankcase is 1200 mL (1.27 qt.) after an engine or transmission overhaul. Refilling after changing oil and oil filter requires only 1150 mL (1.22 qt.) as approximately 50 mL (0.053 qt.) of oil will be retained by crankcase castings.

Manufacturer recommends oil and oil filter be changed after the first 200 km (100 miles) of operation and every 1000 km (600 miles) thereafter. A sump filter screen is located above the oil drain plug and should be removed and cleaned every 2000 km (1200 miles) corresponding with every other oil and oil filter change.

The oil filter may be renewed after removing filter cap (C). Insert new filter with closed end towards filter cap. Renew filter cap "O" ring and ensure filter retaining spring is properly located when installing cap. To remove sump filter screen, unbolt and remove filter screen cap (S) from underneath crankcase. Remove screen retaining screws and withdraw screen. Install a new "O" ring in cap during reinstallation.

**DRIVE CHAIN.** The final drive chain should be lubricated with a suitable chain lube or SAE 90 gear oil prior to each operating interval. Select chain lube designed for use on "O" ring type drive chains; incorrect chain lubricating oil may cause damage to "O" ring seals.

After every 1000 km (600 miles) of operation, the chain should be thoroughly washed in kerosene then lubricated with SAE 90 gear oil. The use of any cleaning



solutions other than kerosene may result in "O" ring seal damage. Adjust drive chain as outlined in DRIVE CHAIN AND SPROCKETS section.

**CABLES, LEVERS AND SHAFTS.** The decompression (ALT185 and LT185 models), brake, choke and throttle cables should be lubricated with motor oil every 1000 km (600 miles). Brake pedal shaft and rear axle housing should be greased every 1000 km (600 miles). Throttle lever, odometer cable, brake camshaft, front wheel bearings and steering shaft should be greased every 2000 km (1200 miles). Do not excessively grease the brake camshaft as grease may contact brake linings reducing braking ability.

### AIR CLEANER ELEMENT

#### All Models

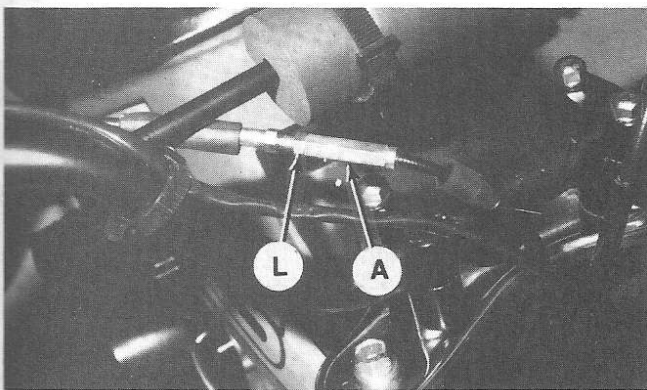
The air cleaner element should be removed and cleaned every 1000 km (600 miles). To remove air cleaner element, first remove seat and element cover. Remove element retaining pin and withdraw element. Carefully separate foam element from frame.

Thoroughly clean element in a suitable nonflammable solvent. Compress element between hands to remove solvent. Saturate element in clean motor oil. Compress element to remove excess oil. Reinstall element by reversing removal procedure.

### FUEL SYSTEM

#### All Models

**CARBURETOR.** Models ALT125 and LT125 are equipped with a Mikuni VM20SS carburetor while Models ALT185 and LT185 are equipped with a Mikuni VM22SS carburetor. Refer to CONDENSED SERVICE DATA for carburetor specifications.



*Fig. S6-2—On ALT125 and ALT185 models, throttle cable adjuster is located adjacent to handlebar as shown. On LT125 and LT185 models, adjuster is located above engine adjacent to frame. On all models loosen locknut (L) and rotate adjuster (A) to adjust throttle cable free play.*

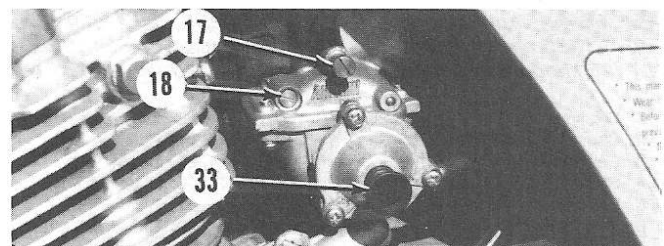
Before performing carburetor adjustments, the throttle cable should be adjusted to provide 0.5-1.0 mm (0.02-0.04 in.) free play at idle position. To adjust, loosen locknut (L—Fig. S6-2) and rotate adjuster (A) as required. Free play can be measured at cable guide on top of carburetor.

Initial setting of idle mixture screw (18—Fig. S6-3) is 1¾ turns out on ALT125 and LT125 models or 2½ turns out on ALT185 and LT185 models from a lightly seated position. Rotating idle mixture screw counterclockwise will richen mixture while clockwise rotation will lean mixture. Final adjustment should be made with engine at normal operating temperature and running. Adjust idle speed screw so engine idles at 1500-1600 rpm on ALT125 and LT125 models or 1350-1450 rpm on ALT185 and LT185 models. On all models, adjust idle mixture screw so highest idle is achieved and readjust idle speed screw to recommended rpm. After adjusting carburetor, check throttle cable adjustment as previously described.

When servicing carburetor, observe the following: On Models ALT125 and LT125, clip (6—Fig. S6-4) should be in second groove from top of jet needle (7). On Models ALT185 and LT185, clip (6) should be in third groove from top of jet needle (7). On all models, float height should be 24.8-26.8 mm (0.98-1.06 in.). To check float height, remove float bowl and invert carburetor. Measure the distance (A—Fig. S6-5) between bottom of float and gasket surface on carburetor body. Adjust float by bending float arm tang.

**FUEL PUMP.** All models are equipped with a diaphragm type fuel pump located adjacent to fuel tank. Alternating pressure and vacuum inside intake manifold is directed to one side of fuel pump diaphragm via a hose. During vacuum pulse, diaphragm draws fuel through inlet check valve into fuel chamber. During pressure pulse, diaphragm reduces fuel chamber volume moving fuel through outlet check valve.

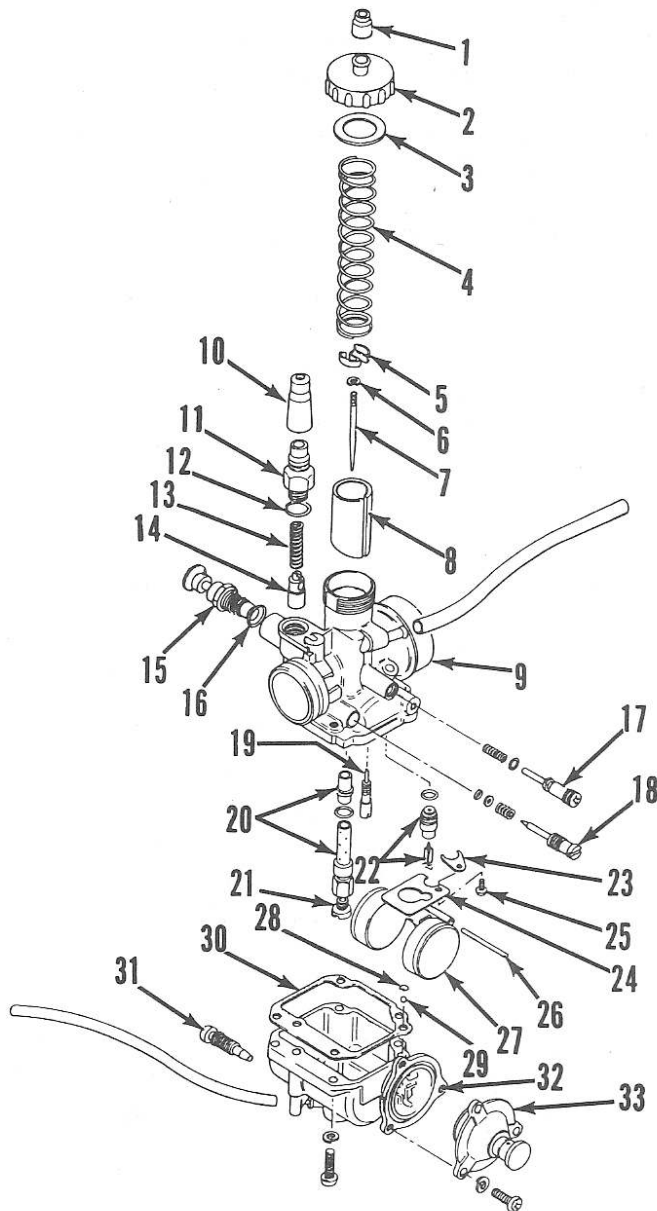
If fuel delivery to carburetor is interrupted, first eliminate other sources of difficulty such as insufficient fuel, clogged fuel strainers, cracked or split hoses or loose pump housing retaining screws before servicing fuel pump. When servicing pump, defective or questionable parts should be renewed. Diaphragm should be renewed if deterioration is evident.



*Fig. S6-3—Installed view of carburetor used on ALT185 and LT185 models showing location of idle speed screw (17), idle mixture screw (18) and priming pump (33).*

## Suzuki ALT125, LT125, ALT185 & LT185

**FUEL STRAINER.** All models are equipped with a fuel strainer located in each fuel tank outlet. The strainer should be removed and cleaned every 2000 km (1200 miles). On ALT185 and LT185 models, the fuel tank must be removed from vehicle to withdraw strainers from tank.



**Fig. S6-4—Exploded view of Mikuni VM22SS carburetor used on ALT185 and LT185 models. Carburetor used on ALT125 and LT125 models is similar except starter valve limiter (15) is absent.**

- |                    |                           |                          |
|--------------------|---------------------------|--------------------------|
| 1. Grommet         | 12. Washer                | 23. Inlet valve retainer |
| 2. Cap             | 13. Spring                | 24. Baffle plate         |
| 3. Gasket          | 14. Starter valve         | 25. Screw                |
| 4. Spring          | 15. Starter valve limiter | 26. Float pin            |
| 5. Retainer        | 16. Washer                | 27. Float                |
| 6. Jet needle clip | 17. Idle speed screw      | 28. Check ball retainer  |
| 7. Jet needle      | 18. Idle mixture screw    | 29. Check ball           |
| 8. Throttle slide  | 19. Pilot jet             | 30. Gasket               |
| 9. Body            | 20. Needle jet            | 31. Drain                |
| 10. Grommet        | 21. Main jet              | 32. Float bowl           |
| 11. Cable guide    | 22. Inlet valve           | 33. Priming pump         |

## IGNITION AND ELECTRICAL

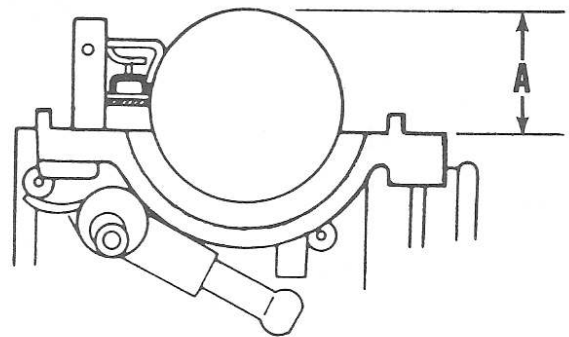
### All Models

**SPARK PLUG.** Standard recommended spark plug is NGK D7EA or Nippon Denso X22ES-U. Spark plug electrode gap should be 0.6-0.7 mm (0.024-0.028 in.).

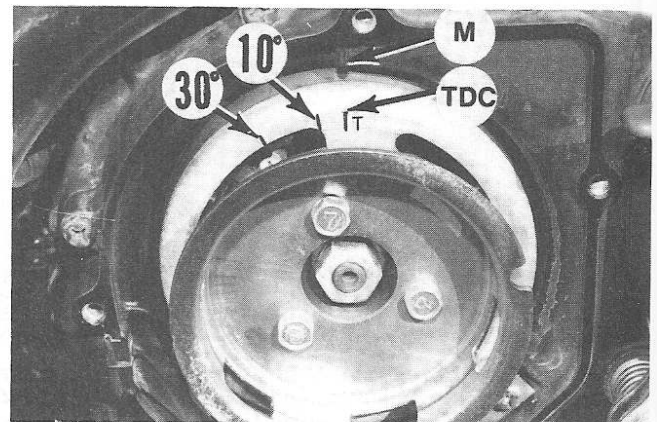
Spark plug should be removed, cleaned and electrode gap set every 2000 km (1200 miles) and renewed every 5000 km (3100 miles).

**IGNITION.** All models are equipped with a capacitor discharge, pointless electronic ignition system. The ignition system consists of the flywheel, a magneto coil located underneath flywheel, an externally mounted pick-up coil, a CDI module attached to front frame tube, an ignition coil located adjacent to module, a spark plug and an engine stop switch. Ignition timing should occur at 10° BTDC with engine operating at 2000 rpm and below and at 30° BTDC at 3500 rpm and above. Refer to Fig. S6-6 for view of timing marks.

If ignition malfunction occurs, check condition of spark plug, all wires and connections before trouble-shooting ignition circuit. Using Suzuki pocket tester number 09900-25002 or a suitable ohmmeter, refer to the following test specifications and procedures to aid trouble-shooting.



**Fig. S6-5—Float level (A) should be 24.8-26.8 mm (0.98-1.06 in.). Bend float arm tang to adjust float level.**



**Fig. S6-6—View of ignition timing marks typical of all models. Note that 10° and 30° marks are before top dead center.**

To check condition of CDI module, first remove module from vehicle. Use tester or ohmmeter in conjunction with test chart shown in Fig. S6-7. Renew CDI module if required.

To check condition of magneto coil and pickup coil, separate blue wire from pickup coil and black/red wire from magneto coil to CDI module. Attach one tester lead to pickup coil end of blue wire and remaining tester lead to vehicle ground. Resistance reading should be approximately 130-200 ohms. Attach one tester lead to magneto coil end of black/red wire and remaining tester lead to ground. Resistance reading should be approximately 350-450 ohms.

To check condition of ignition coil, separate black wire connector from coil to CD ignition module and remove high tension wire from spark plug. Attach one tester lead to black wire and remaining lead to coil ground. Primary coil resistance reading should be approximately 0.5-1.5 ohms. Attach one tester lead to high tension wire and remaining lead to coil ground. Secondary coil resistance reading should be approximately 15k-25k ohms.

**LIGHT CIRCUIT.** All models are equipped with a lighting coil located underneath the flywheel. On ALT125 and LT125 models, the lighting coil should produce 5.5-8.0 volts to provide voltage to the 6 volt 25 watt headlight and 6 volt 5 watt taillight. On ALT185 and LT185 models, the lighting coil is regulated and should produce 9-14 volts to provide voltage to the 12 volt 35/35 watt headlight and 12 volt 5 watt taillight.

On all models the lighting coil can be statically checked using Suzuki pocket tester 09900-25002 or a suitable ohmmeter. Separate yellow/red wire connector from lighting coil to light switch and attach one tester lead to coil side of wire and remaining lead to vehicle ground.

		+ Tester lead				
		Black	Blue	Black/Red	Black/White	Black/Yellow
- Tester lead	Black		A	B	C	C
	Blue	I		D	E	F
	Black/Red	I	J		G	H
	Black/White	I	K	C		C
	Black/Yellow	I	J	H	G	

Fig. S6-7—Use chart shown above and values listed below to test condition of CD ignition module. All values are approximations.

- A. 130k-170k ohms
- B. 9k-13k ohms
- C. 2k-5k ohms
- D. 60k-80k ohms
- E. 25k-35k ohms
- F. 50k-70k ohms
- G. Tester needle should deflect to 50k-70k ohms then return to 150k ohms
- H. Open circuit
- I. Closed circuit
- J. 500k ohms

Resistance reading should be approximately 0.2-0.8 ohms.

An operational check can be performed using Suzuki pocket tester 09900-25002 or a suitable voltmeter as follows: Remove headlight and attach tester positive lead to yellow wire and tester negative lead to black/white wire. Set lighting switch to on position, and on ALT185 and LT185 models, set dimmer switch in high beam position. On ALT125 and LT125 models, run engine at 3000 rpm and then at 8000 rpm while observing tester. Lighting coil is satisfactory if voltage reading is within the limits of 5.5-8.0 volts. On ALT185 and LT185 models, run engine at 2000 rpm and then above 2000 rpm while observing tester. Lighting coil and regulator are satisfactory if voltage reading is within the limits of 9-14 volts.

**WIRING.** If wiring requires repair, always use replacement wire of the same gage. Wires should be routed away from areas of extreme heat or sharp edges. Plastic tie straps should be used to retain wires in their original

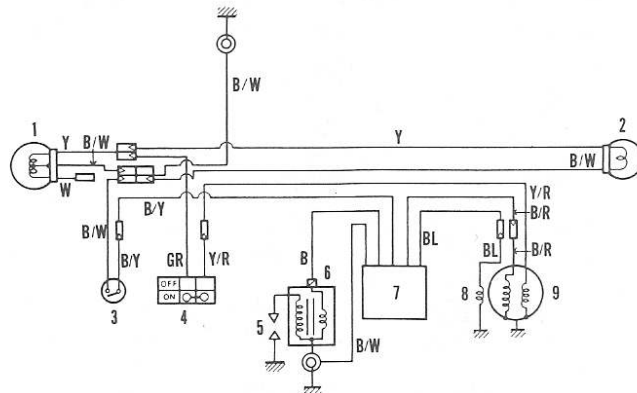


Fig. S6-8—Wiring diagram for all ALT125 models and LT125 models except for Model LT125H.

- B. Black
- BL. Blue
- GR. Gray
- W. White
- Y. Yellow
- B/R. Black with red tracer
- B/W. Black with white tracer
- B/Y. Black with yellow tracer
- Y/R. Yellow with red tracer
- 1. Headlight
- 2. Taillight
- 3. Engine stop switch
- 4. Light switch
- 5. Spark plug
- 6. Ignition coil
- 7. CDI module
- 8. Pickup coil
- 9. Magneto

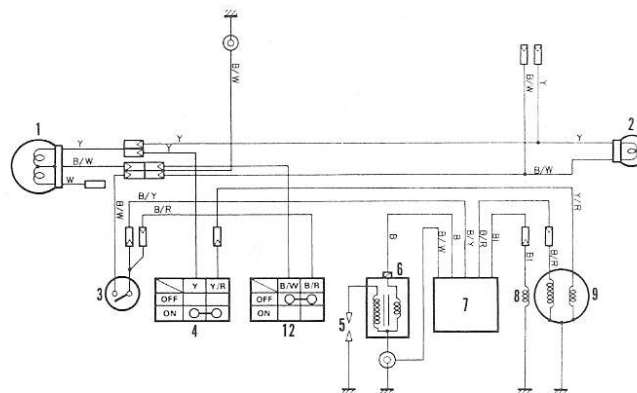


Fig. S6-9—Wiring diagram for Model LT125H. Refer to legend in Fig. S6-8 for identification of components and wiring color codes except for ignition switch (12).



## Suzuki ALT125, LT125, ALT185 & LT185

positions to prevent short circuiting. Refer to Fig. S6-8, Fig. S6-9, Fig. S6-10 or Fig. S6-11 for schematic wiring diagram pertaining to a particular model.

### FASTENERS

#### All Models

After the first 200 km (100 miles) of operation and every 1000 km (600 miles) thereafter the cylinder head, cylinder, exhaust system engine mounts and all chassis nuts or bolts should be retightened. Refer to TIGHTENING TORQUES section of CONDENSED SERVICE DATA for torque specifications.

### VALVE SYSTEM

#### All Models

The valves are actuated via rocker arms by a single overhead camshaft. Camshaft is timed and driven by a roller drive chain from left end of crankshaft. Valve clear-

ance should be adjusted after the first 200 km (100 miles) of operation and every 1000 km (600 miles) thereafter. Valve clearance should be adjusted with engine cold.

To adjust valve clearance, first remove seat, front frame cover, spark plug, valve adjustment caps and manual starter. Rotate crankshaft until "T" mark (TDC—Fig. S6-6) on flywheel aligns with stationary mark (M) on crankcase and piston is on compression stroke. To ensure piston is on compression stroke, rotate crankshaft  $\frac{1}{4}$  turn past TDC while observing intake valve. If valve movement is indicated, rotate crankshaft one full revolution and align timing marks again.

Clearance between rocker arm adjusting screw and valve stem should be 0.08-0.13 mm (0.003-0.005 in.) for both intake and exhaust valves. Clearance is adjusted by loosening locknut (L—Fig. S6-13) and turning screw (A). Be sure to recheck adjustment after locknuts have been tightened.

After performing valve clearance adjustment, check and adjust decompression control. Actuate control lever on right handlebar. Adjust the cable at (A—Fig. S6-14) so decompression lever (D) just contacts cylinder head cover.

### CAM CHAIN

#### All Models

Cam chain tension should be adjusted after the first 200 km (100 miles) of operation and every 1000 km (600 miles) thereafter. Cam chain tension is adjusted with piston at TDC on compression stroke. Align timing marks as previously described in VALVE SYSTEM section to set piston at TDC on compression stroke; however for cam chain tension adjustment, make sure flywheel is rotated in normal operation direction (counterclockwise) only. Loosen locknut (L—Fig. S6-15) and back out set screw (S) one complete revolution to release tensioner push rod. Spring in tensioner mechanism automatically

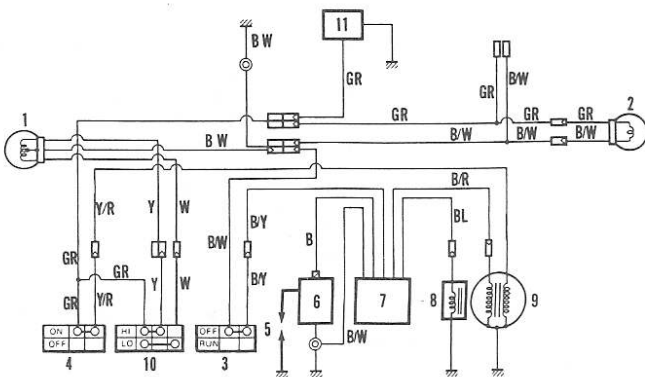


Fig. S6-10—Wiring diagram for all ALT185 models and LT185 models except for Model LT185H. Refer to legend in Fig. S6-8 for identification of components and wiring color codes except for dimmer switch (10) and voltage regulator (11).

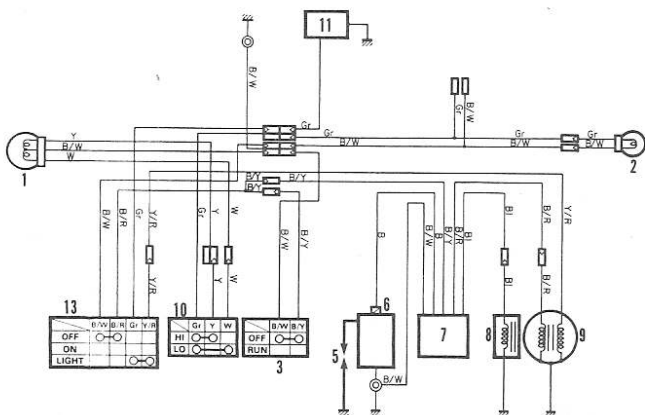


Fig. S6-11—Wiring diagram for Model LT185H. Refer to legend in Fig. S6-8 for identification of components and wiring color codes except for dimmer switch (10), voltage regulator (11) and combination ignition/light switch (13).

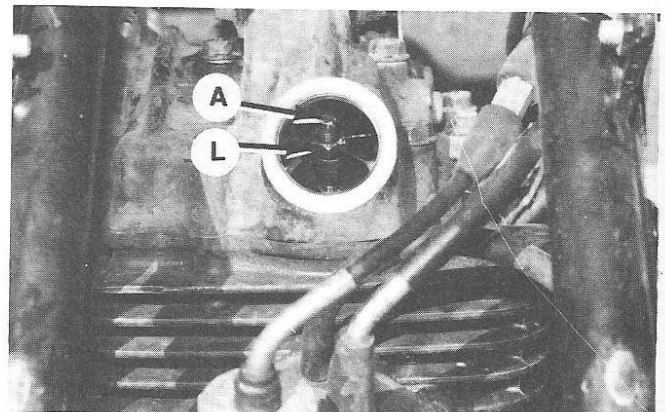


Fig. S6-13—Clearance between valve stem and adjusting screw (A) should be 0.08-0.13 mm (0.003-0.005 in.) for both intake and exhaust valves.

adjusts cam chain tension. Tighten set screw and secure with locknut.

Cam chain noise after adjustment may be caused by a stuck tensioner push rod. Remove tensioner retaining cam screws (C) and withdraw the unit. Loosen set screw and clean tensioner with a suitable solvent. Lubricate tensioner push rod with clean motor oil. Actuate push rod several times to ensure smooth movement. Reinstall tensioner and adjust as previously described.

## CLUTCH

### All Models

All models are equipped with two types of automatically actuated clutches assembled into one unit and fitted to right end of crankshaft. One type is a two-shoe centrifugal clutch actuated by engine rpm. The other type is a multiple-disc clutch actuated by the gear shift lever. During gear selection, a lever attached to end of gear shift shaft simultaneously disengages the multiple-disc clutch to permit smooth transmission operation.

The clutch should be adjusted after the first 200 km (100 miles) of operation and every 2000 km (1200 miles) thereafter. To adjust clutch, remove cover (C—Fig. S6-16) on right side of crankcase. Loosen locknut (L—Fig. S6-17). Turn adjusting screw (S) in stopping just as internal resistance is felt, then back screw out 1/8 turn. Secure adjusting screw while tightening locknut.

To check clutch operation, first adjust clutch as previously described. Ensure oil level is correct and engine is at operating temperature. Attach a suitable tachometer. Select low gear and slowly accelerate engine while observing meter. Initial engagement should begin at

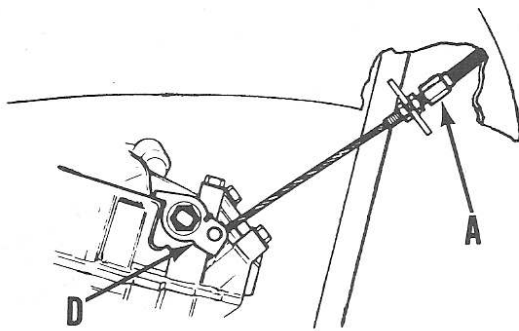


Fig. S6-14—Decompression lever (D) should just contact cylinder head cover when engaged. Adjust cable at (A).

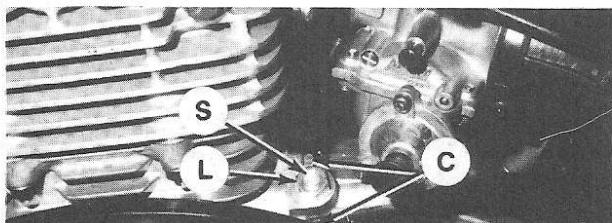


Fig. S6-15—Following procedure outlined in text, loosen locknut (L) and set screw (S) to adjust cam chain tension.

1800-2200 rpm. Next, with transmission still in low gear, lock up brakes and momentarily open the throttle. Do not maintain open throttle longer than 10 seconds. Engine speed should be held to 3200-3600 rpm on models prior to 1986 and 3300-3700 rpm on 1986 and 1987 models. Any results other than specified may indicate disassembly and repair of clutch unit is required.

## MANUAL STARTER

### All Models

**R&R AND OVERHAUL.** Refer to Fig. S6-18 for exploded view of starter used on ALT125 and LT125 models or to Fig. S6-19 for exploded view of starter used on ALT185 and LT185 models. On all models, starter may be removed as a complete unit from vehicle after removing four starter housing retaining cap screws. Refer

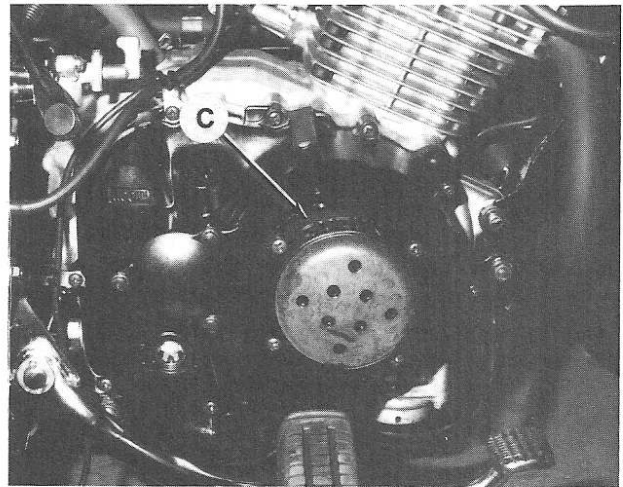


Fig. S6-16—Remove side cover (C) to obtain access to clutch adjusting screw.

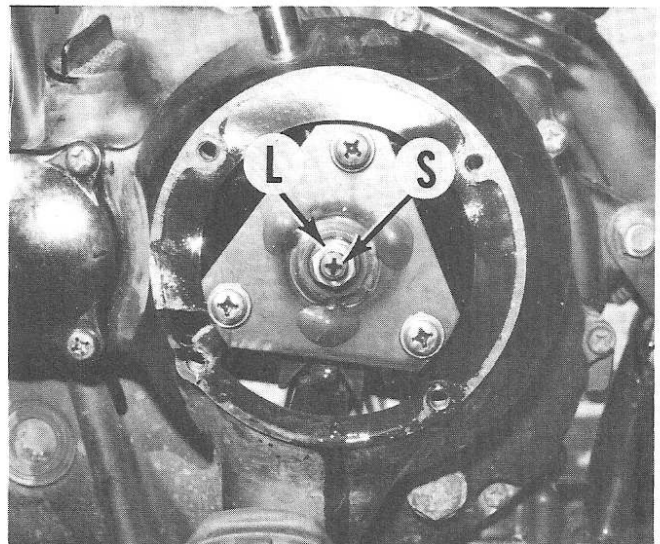
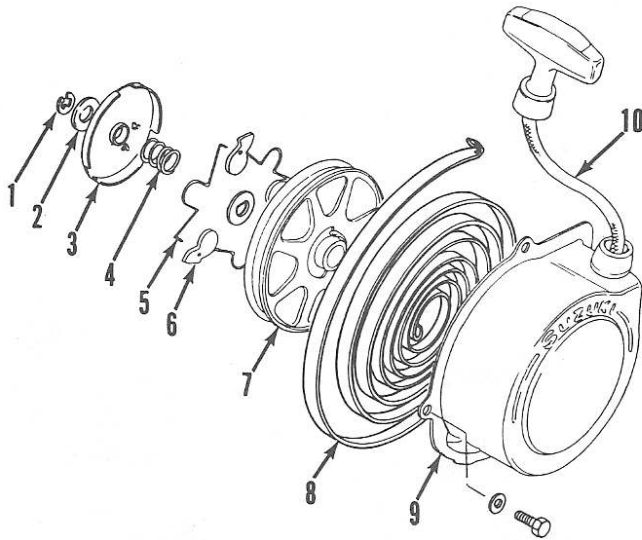


Fig. S6-17—View of clutch adjusting screw (S) and locknut (L). Refer to text for adjustment procedure.

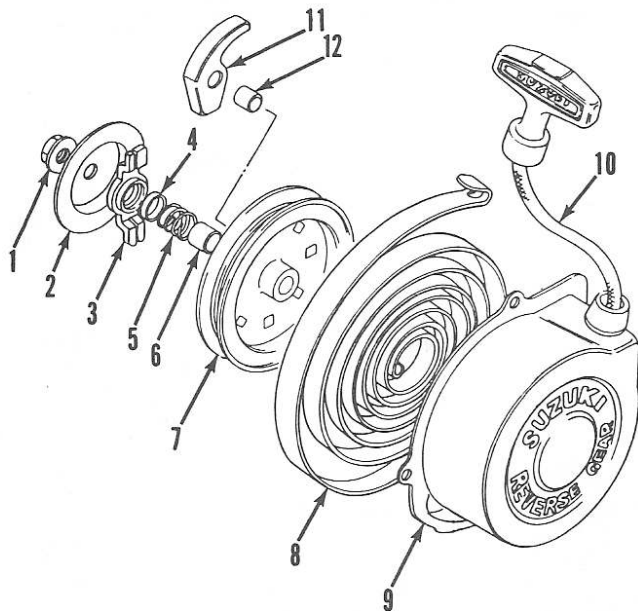
## Suzuki ALT125, LT125, ALT185 & LT185

to appropriate exploded view and disassemble starter as follows: If starter spring remains under tension, pull starter rope and hold rope pulley (7) with notch in pulley adjacent to rope outlet. Pull rope back through outlet so it engages notch in pulley and allow pulley to slowly unwind. Remove "E" ring or retaining nut (1) and disassemble unit. Be careful when removing rewind spring (8); a rapidly uncoiling starter spring could cause serious injury.



**Fig. S6-18—Exploded view of manual starter used on ALT125 and LT125 models.**

- |                   |                  |                    |
|-------------------|------------------|--------------------|
| 1. "E" ring       | 5. Return spring | 8. Rewind spring   |
| 2. Thrust washer  | 6. Starter pawl  | 9. Starter housing |
| 3. Friction plate | 7. Rope pulley   | 10. Rope           |
| 4. Spring         |                  |                    |



**Fig. S6-19—Exploded view of manual starter used on ALT185 and LT185 models.**

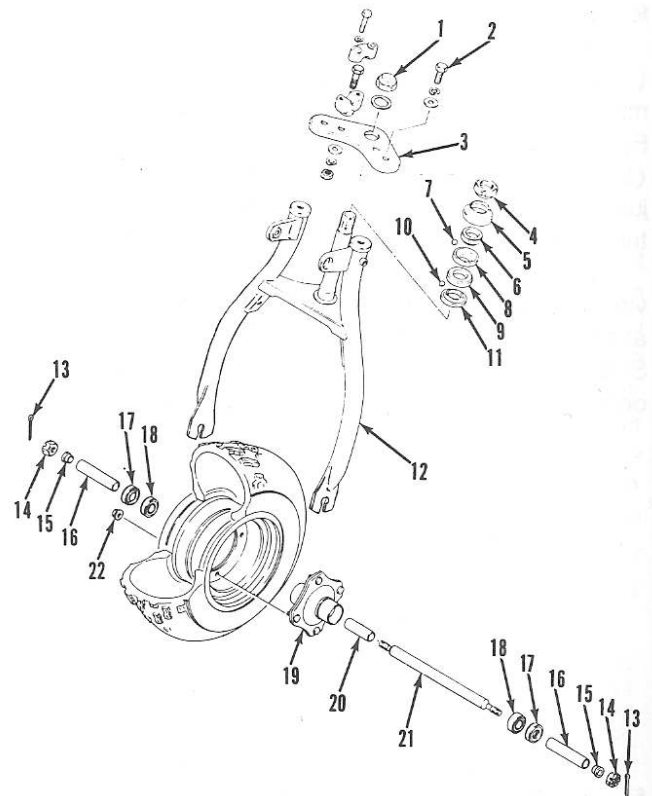
- |                   |                  |                    |
|-------------------|------------------|--------------------|
| 1. Nut            | 5. Spring        | 9. Starter housing |
| 2. Friction plate | 6. Spacer        | 10. Rope           |
| 3. Pawl guide     | 7. Rope pulley   | 11. Starter pawl   |
| 4. Spring guide   | 8. Rewind spring | 12. Pin            |

Rewind spring is wound in a clockwise direction in starter housing. Rope is wound on rope pulley in a clockwise direction as viewed with pulley in housing. Reassemble starter assembly by reversing disassembly procedure. To place tension on rewind spring, pass rope through rope outlet in housing and install rope handle. Pull rope out and hold pulley so notch in pulley is adjacent to rope outlet. Pull a loop of rope back through outlet between notch in pulley and housing. Turn rope pulley clockwise three or four complete revolutions to place tension on spring. Do not place more tension on rewind spring than is necessary to draw rope handle up against housing.

## FRONT AXLE ASSEMBLY

### Models ALT125 And ALT185

**R&R AND OVERHAUL.** Refer to Fig. S6-20 for an exploded view of front axle assembly used on ALT185



**Fig. S6-20—Exploded view of steering and front axle assembly used on ALT185 models. Front axle assembly used on ALT125 models is similar.**

- |                        |                           |
|------------------------|---------------------------|
| 1. Stem head nut       | 12. Steering stem & assy. |
| 2. Fork cap screw      | 13. Cotter pin            |
| 3. Stem head bracket   | 14. Axle nut              |
| 4. Steering stem nut   | 15. Nut spacer            |
| 5. Dust cover          | 16. Spacer                |
| 6. Outer race          | 17. Seal                  |
| 7. Bearing balls (22)  | 18. Bearing               |
| 8. Inner race          | 19. Hub                   |
| 9. Inner race          | 20. Bearing spacer        |
| 10. Bearing balls (18) | 21. Axle                  |
| 11. Outer race         | 22. Wheel nut             |



models. Front axle assembly used on ALT125 models is similar. To remove front wheel, remove cotter pin (13) and unscrew axle nuts (14). Suitably support vehicle and remove front wheel and axle assembly. Remove spacers (16) from both sides of axle shaft (21) and withdraw axle shaft from hub (19). Remove wheel retaining nuts (22) and separate wheel hub and wheel. Drive seals (17), bearings (18) and spacer (20) from hub if necessary.

Inspect bearings and axle for wear. Bearings should be packed with a good quality wheel bearing grease. To reassemble, reverse disassembly procedure while noting the following: On ALT125 models, install the first bearing into nonstudded side of hub. On ALT185 models, install the first bearing into threaded stud side of hub. On all models, seals (17) are installed with open sides toward bearings. Apply grease to seal lips before inserting spacers (16). Tighten wheel retaining nuts (22) to 20-31 N·m (14.5-22.5 ft.-lbs.) torque and axle retaining nuts (14) to 36-52 N·m (26.0-37.5 ft.-lbs.) torque.

## Models LT125 And LT185

**R&R AND OVERHAUL.** Refer to Fig. S6-21 for an exploded view of front axle assembly used on LT125 models or to Fig. S6-22 for front axle assembly used on LT185 models. To remove either wheel hub (35), remove front wheel and axle nut (38). Pull wheel hub from spindle (30). Do not lose spacer (36). Drive seals (32), bearings (33) and spacer (34) from hub if necessary.

To reassemble, reverse disassembly procedure while noting the following: Install the inner bearing (33) into hub first. Seals (32) are installed with open sides toward bearings (33). Tighten axle nut (38) to 50-80 N·m (36.0-58.0 ft.-lbs.) torque. On LT125 models, tighten wheel retaining nuts to 20-31 N·m (14.5-22.5 ft.-lbs.) torque. On LT185 models, tighten wheel retaining nuts to 45-65 N·m (32.5-47.0 ft.-lbs.) torque.

## STEERING

### Models ALT125 And ALT185

**ADJUSTMENT.** The steering should be checked and adjusted after the first 200 km (100 miles) of operation and every 1000 km (600 miles) thereafter. To adjust, remove handlebars and steering stem head bracket (3—Fig. S6-20). Using tool 09940-14911 or equivalent, tighten steering stem nut (4) to 40-50 N·m (29-36 ft.-lbs.) torque. Pivot the fork lock-to-lock several times to seat the bearings, then loosen stem nut  $\frac{1}{4}$ - $\frac{1}{2}$  turn. Install stem head bracket and tighten stem head retaining nut (1) and cap screws (2) to 35-55 N·m (25.5-40.0 ft.-lbs.) torque. Recheck adjustment.

**R&R AND OVERHAUL.** To remove steering assembly, remove front wheel as outlined in FRONT AXLE ASSEMBLY section. Remove front fender, fender extension and headlight. Disconnect wiring within headlight housing and carefully pull wiring harness from housing. Remove headlight housing and handlebars. Unless handlebars require complete removal, do not detach control cables or levers. Unbolt and remove steering stem head bracket (3—Fig. S6-20). Using tool 09940-14911 or equivalent, unscrew stem nut (4) and remove steering stem and fork assembly from frame being careful not to lose bearing balls (7 and 10).

Drive upper and lower bearing inner races (8 and 9) from head pipe using a suitable drift. Lower bearing outer race (11) can be removed by carefully driving a suitable wedge between bearing and bearing seat. Inspect and renew any questionable components. Bearing inner races (8 and 9) should be installed using tool 09941-34513 or equivalent. Use a good quality grease to lubricate and retain bearing balls (7 and 10) in position during installation. Upper bearing contains 22 loose bearing balls (7) while lower bearing contains 18 loose bearing balls (10). Adjust steering stem as outlined in ADJUSTMENT section.

### Models LT125 And LT185

**ADJUSTMENT.** The toe-in should be checked and adjusted after the first 200 km (100 miles) of operation and every 1000 km (600 miles) thereafter. Prior to toe-in adjustment, inspect steering assembly for damaged or

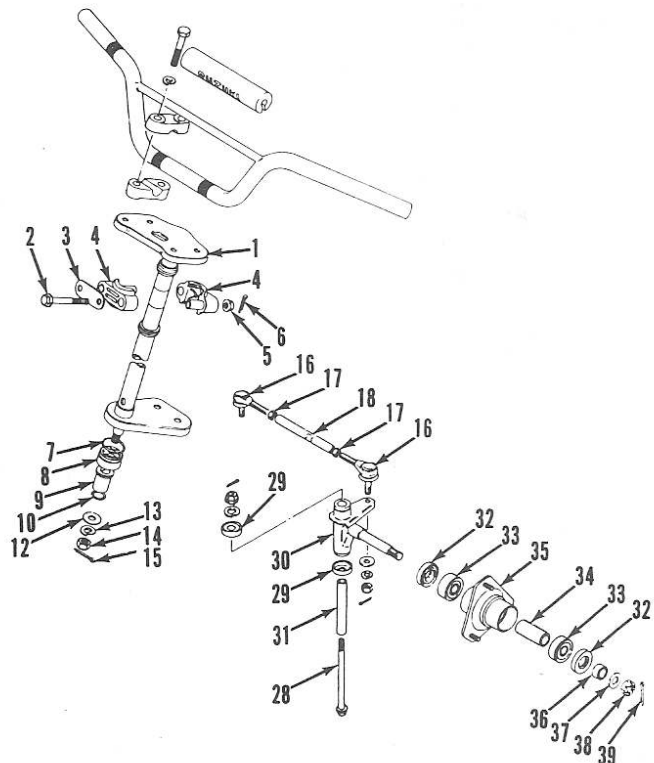


Fig. S6-21—Exploded view of steering and front axle assembly used on LT125 models. Refer to Fig. S6-22 for parts identification.

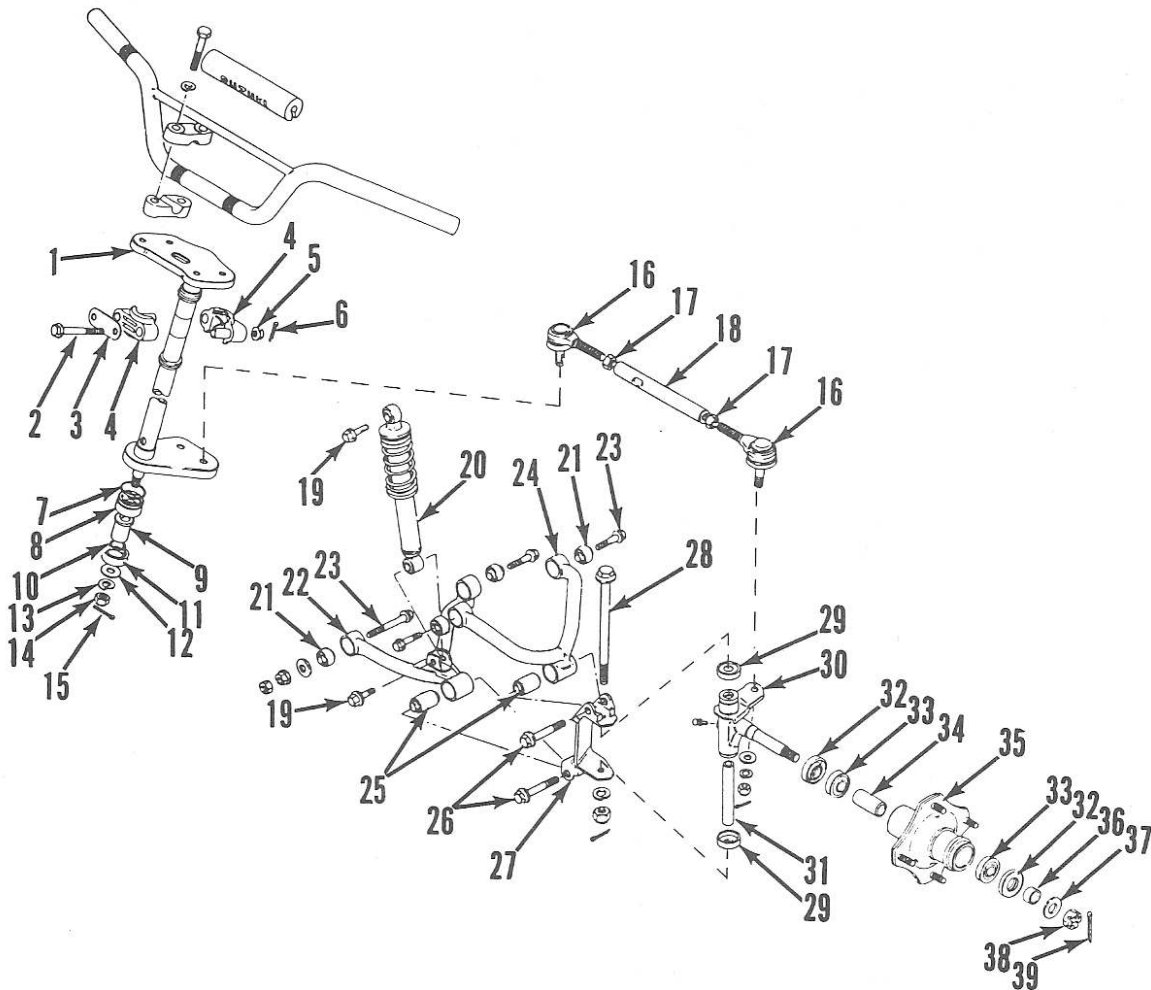
## Suzuki ALT125, LT125, ALT185 & LT185

excessively worn components. If service to steering assembly is required, refer to R&R AND OVERHAUL section.

To check toe-in, inflate tires to recommended pressure of 15 kPa (2.2 psi). Position vehicle on a flat smooth surface and set handlebars straight forward. Using a suitable tape measure, measure the distance between right and left tire centerlines on back side of tires (B—Fig. S6-23) and record measurement. Locate the same tire centerline points on front side of tires (F) and record measurement. On LT125 models, the front measurement should be 7-9 mm (0.28-0.35 in.) less than rear measurement on models prior to 1986 and 5-11 mm (0.20-0.43 in.) on 1986 and 1987 models. On LT185 models, the front measurement should be 13.5-16.5 mm (0.53-0.65 in.) less than rear measurement on models prior to 1986 and 9-15 mm (0.35-0.59 in.) on 1986 and 1987 models. On all models, note that the distance from a projected vehicle centerline to left (L) and right (R) tire centerlines should also be equal.

To adjust toe-in, loosen tie rod locknuts (17—Fig. S6-21 or Fig. S6-22) on both left and right tie rods. Tie rod ends (16) and locknuts (17) color coded yellow have left-hand threads. Rotate adjusters (18) in equal increments to maintain equal vehicle centerline to left and right tire centerline distances. Tighten tie rod locknuts to 25-35 N·m (18.0-25.5 ft.-lbs.) torque.

**R&R AND OVERHAUL.** Refer to Fig. S6-21 for an exploded view of steering assembly used on LT125 models or to Fig. S6-22 for exploded view of steering assembly used on LT185 models. Removal and disassembly of steering components is evident after inspection of unit and referral to an appropriate exploded view. During reassembly, renew all cotter pins. Lubricate all friction points with a good quality grease. Tighten steering shaft clamp cap screws (2) to 18-28 N·m (13-20 ft.-lbs.), steering shaft lower nut (14) to 22-35 N·m (16.0-25.5 ft.-lbs.) and tie rod retaining nuts and spindle cap screws (28) to 40-60 N·m (29.0-43.5 ft.-lbs.) torque.



**Fig. S6-22—Exploded view of steering, suspension and front axle assembly used on LT185 models.**

- |                   |                  |                     |                        |                       |                    |
|-------------------|------------------|---------------------|------------------------|-----------------------|--------------------|
| 1. Steering shaft | 8. Dust seal     | 15. Cotter pin      | 22. Lower wishbone arm | 28. Spindle cap screw | 34. Bearing spacer |
| 2. Cap screw      | 9. Lower bushing | 16. Tie rod end     | 23. Cap screw          | 29. Dust seal         | 35. Wheel hub      |
| 3. Washer         | 10. "O" ring     | 17. Locknut         | 24. Upper wishbone arm | 30. Spindle           | 36. Spacer         |
| 4. Shaft holder   | 11. Dust seal    | 18. Toe-in adjuster | 25. Bushing            | 31. Spacer            | 37. Washer         |
| 5. Nut            | 12. Washer       | 19. Cap screw       | 26. Cap screw          | 32. Seal              | 38. Axle nut       |
| 6. Cotter pin     | 13. Lockwasher   | 20. Shock absorber  | 27. Spindle holder     | 33. Bearing           | 39. Cotter pin     |
| 7. Seal circlip   | 14. Nut          | 21. Bushing         |                        |                       |                    |



## BRAKES

## All Models

**ADJUSTMENT.** All models are equipped with a two-shoe internal expanding drum brake mounted on rear axle and actuated by either left handlebar lever or right brake pedal. The brakes should be checked and adjusted after the first 200 km (100 miles) and every 1000 km (600 miles) thereafter.

To properly check and adjust brake system, first actuate brake pedal and measure free travel at end of pedal. Free travel should be 20-30 mm (0.8-1.2 in.) and is adjusted by rotating pedal adjuster (P—Fig. S6-24). After adjusting brake pedal, check brake lever adjustment. Remove protective cover from lever and measure brake lever free travel. Lever should have 3-7 mm (0.1-0.3 in.) of free travel between lever base and bracket as measured at (F—Fig. S6-25). To adjust, turn adjuster (A) on brake lever completely in, then rotate lever adjuster (L—Fig. S6-24) located at rear brake as required. Additional adjustment is possible by turning adjuster (A—Fig. S6-25).

All models are equipped with a brake lining wear indicator (I—Fig. S6-24) on axle housing to externally determine brake lining wear limit. To externally check brake lining wear, apply the brake and note the location of index mark (M) on brake cam lever in relationship to stationary indicator (I). If mark does not rotate beyond wear indicator (I), brake linings may be considered satisfactory.

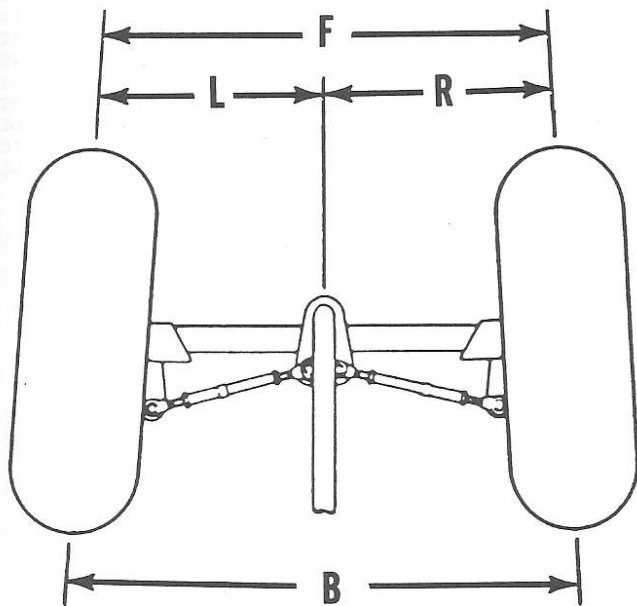


Fig. S6-23—Toe-in should be 7-9 mm (9/32-11/32 in.) on LT125 models prior to 1986 and 5-11 mm (0.20-0.43 in.) on 1986 and 1987 models. Toe-in should be 13.5-16.5 mm (17/32-21/32 in.) on LT185 models prior to 1986 and 9-15 mm (0.35-0.59 in.) on 1986 and 1987 models. Refer to text for measuring procedure.

**R&R AND OVERHAUL.** To remove rear brake shoes for inspection or renewal, first suitably support rear of vehicle and remove right rear axle nut. Pull tire, wheel and hub off axle as an assembly. Remove the drum retaining nuts (1 and 2—Fig. S6-26). Unbolt and withdraw brake drum cover (4). Slide brake drum (5) off axle. Carefully extract the brake shoes (6) and springs (7) from backing plate.

Brake shoes should be renewed if linings are worn to 1.5 mm (0.06 in.) or less. Brake drum should be renewed if inside diameter exceeds 150.7 mm (5.93 in.)

Reinstall brake shoes by reversing removal procedure while noting the following: Lightly coat brake camshaft and pin with grease. If dust seal (3) requires renewal, coat outer perimeter of new seal with Loctite or equivalent. On ALT185 and LT185 models, install seal into brake drum cover with arrow marked side of seal facing

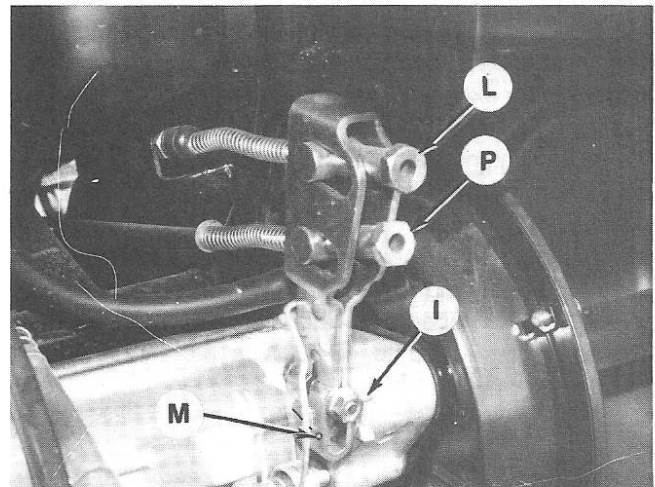


Fig. S6-24—View of brake lever adjuster (L), pedal adjuster (P) and brake lining wear indicator marks (M) and (I) typical of all models.

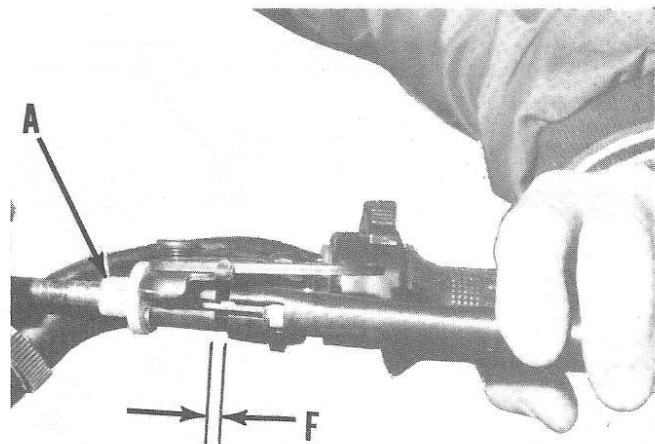


Fig. S6-25—Brake lever should have 3-7 mm (0.1-0.3 in.) of free travel measured at (F). Turn adjuster (A) completely in and adjust at (L—Fig. S6-24).

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out and centered in notched portion of cover bore. On all models, install brake cover with drain opening down and tighten cap screws to 4-7 N·m (36-60 in.-lbs.) torque. Install and tighten inner drum nut (2) to 50-80 N·m (36-58 ft.-lbs.) torque. While securing inner drum nut, install and tighten outer drum nut (1) to 160-200 N·m (115.5-144.5 ft.-lbs.) torque. Tighten axle nut to 85-115 N·m (61.5-83.0 ft.-lbs.) torque and secure with a new cotter pin. Adjust brake as outlined in ADJUSTMENTS paragraphs.

## SUSPENSION

### Model LT185

Model LT185 is equipped with a double wishbone type front suspension and oil dampened shock absorbers. Shock absorber load setting is not adjustable. Refer to Fig. S6-22 for exploded view of suspension components. The suspension components should be periodically inspected for excessive wear or damage. When renewing bushings (21 and 25), coat outside of bushing with Loctite or equivalent, then carefully press bushing into suspension arm. Upper and lower suspension arm inner cap screws (23) should be tightened to 40-60 N·m (29.0-43.5 ft.-lbs.) torque while the outer cap screws (26) should be tightened to 70-100 N·m (50.5-72.5 ft.-lbs.) torque. Shock absorber retaining cap screws (19) should be tightened to 40-60 N·m (29.0-43.5 ft.-lbs.) torque.

## DRIVE CHAIN AND SPROCKETS

### All Models

**ADJUSTMENT.** The drive chain should be inspected and adjusted every 1000 km (600 miles). Improper maintenance and neglect can cause early failure of both drive chain and sprockets. Drive chain free play should be 10-20 mm (0.39-0.79 in.) measured midway between sprockets. To adjust free play, first remove bottom guard plate to obtain access to chain tensioner. Loosen chain tensioner retaining cap screw and reposition tensioner as required. Tighten chain tensioner retaining cap screw to 70-100 N·m (50.5-72.5 ft.-lbs.) torque.

Refer to LUBRICATION section for drive chain lubrication requirements.

**R&R AND OVERHAUL.** To remove drive chain and sprockets, remove seat, rear fender and bottom guard plate. Suitably support rear of vehicle and remove left axle nut (30—Fig. S6-27). Slide tire, wheel and hub from axle as an assembly. Loosen chain tensioner retaining cap screw (8) and slacken drive chain. Release chain case clamps and remove the two retaining nuts, then withdraw case. Remove tensioner (10) clamp bolt and snap ring (11). Pull chain tensioner (10) off tensioner arm (9). Unbolt and remove chain catcher (3). Remove sprocket retaining nut (6) and lockwasher (5). Pull sprocket (4) from drive shaft (1) and withdraw sprocket and chain. Bend back tabs on lock plates (26) and

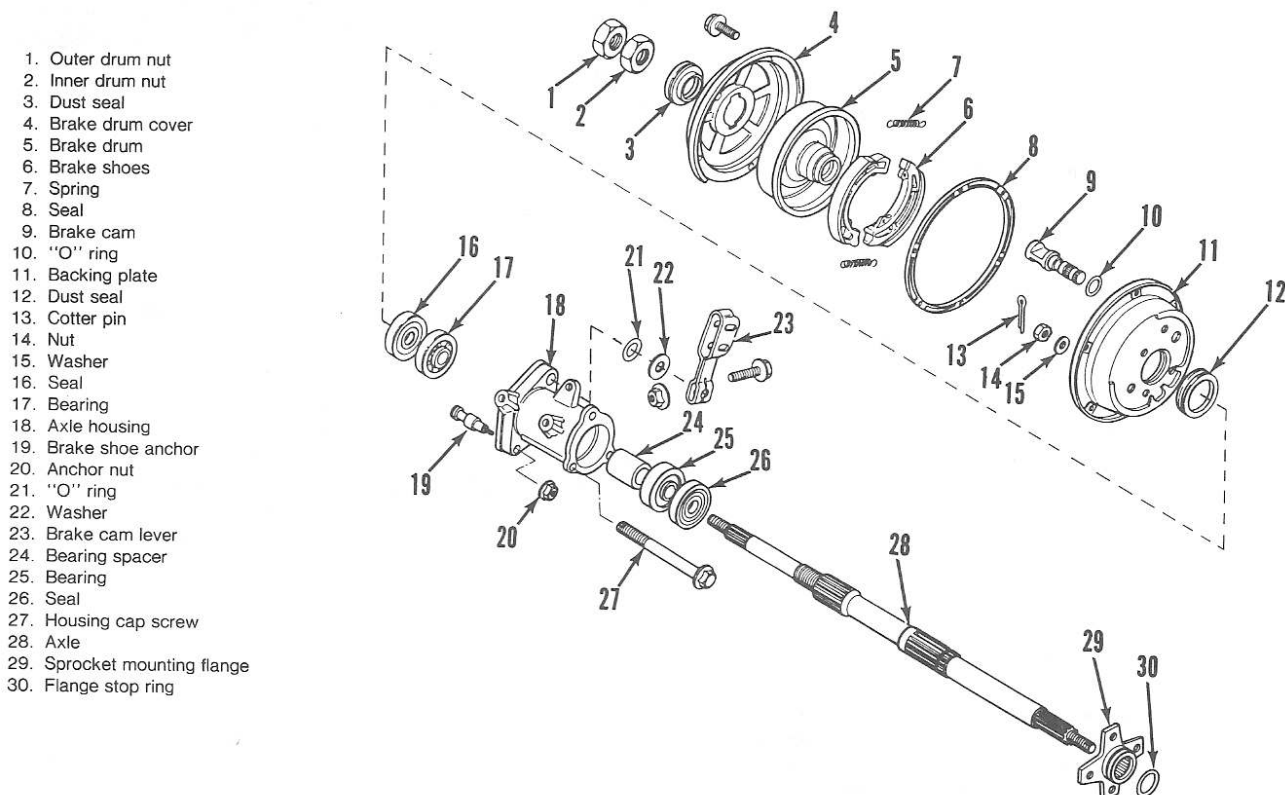


Fig. S6-26—Exploded view of brakes and rear axle assembly used on ALT185 and LT185 models. ALT125 and LT125 models are similar.

remove cap screws (27). Slide rear sprocket assembly (17 through 25) off axle. Remove cotter pins (17) and nuts (18). Separate rear driven sprocket components.

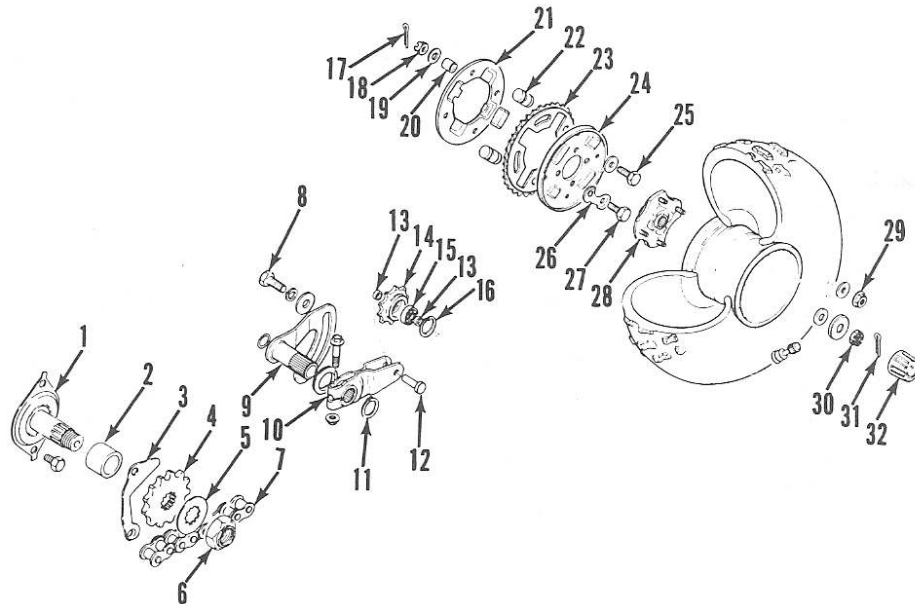
Carefully examine front, rear and tensioner sprockets for excessive wear. Worn sprockets will usually have a hooked profile. A good test is to place a new chain on a used sprocket and check the fit. Wear on sprocket sides indicates misalignment. If sprockets require renewal due to wear, always renew drive chain. Inspect remaining components and renew any that are damaged or worn excessively.

Standard chain on ALT125 and LT125 models is either a D.I.D. 428V or Takasago RK428 HMO with 90 links. Standard chain on ALT185 and LT185 models is either a D.I.D. 520VS or Takasago RK520 SMO with 72 links. On ALT125 and LT125 models standard drive sprocket has

13 teeth while standard rear sprocket has 49 teeth. On ALT185 and LT185 models, standard drive sprocket has 12 teeth while standard rear sprocket has 38 teeth.

Reinstall by reversing removal procedure while noting the following: Renew all lock plates and cotter pins. Apply Loctite or equivalent to threads on rear sprocket cap screws (25) and tighten cap screws (25) and nuts (18) to 8-12 N·m (6.0-8.5 ft.-lbs.) torque. Secure nuts with new cotter pins (17). Apply Loctite or equivalent to rear sprocket assembly retaining cap screws (27) and tighten screws to 40-60 N·m (29.0-43.5 ft.-lbs.) torque. Bend lock plates (26) up around cap screw heads. Install chain tensioner (10) on tensioner arm (9) with index punch mark on end of arm shaft centrally located in split on chain tensioner (10). Adjust chain tension as outlined in ADJUSTMENT paragraphs.

1. Countershaft
2. Spacer
3. Chain catcher
4. Drive sprocket
5. Washer
6. Nut
7. Final drive chain
8. Cap screw
9. Tensioner arm
10. Chain tensioner
11. Snap ring
12. Pin
13. Spacer
14. Tensioner sprocket
15. Bearing
16. Snap ring
17. Cotter pin
18. Nut
19. Washer
20. Spacer
21. Inner sprocket plate
22. Damper
23. Rear sprocket
24. Outer sprocket plate
25. Cap screw
26. Lock plate
27. Mounting flange cap screw
28. Wheel hub
29. Wheel nut
30. Axle nut
31. Cotter pin
32. Cap



**Fig. S6-27—Exploded view of final drive sprockets, chain tensioner and related components used on ALT185 and LT185 models. ALT125 and LT125 models are similar.**