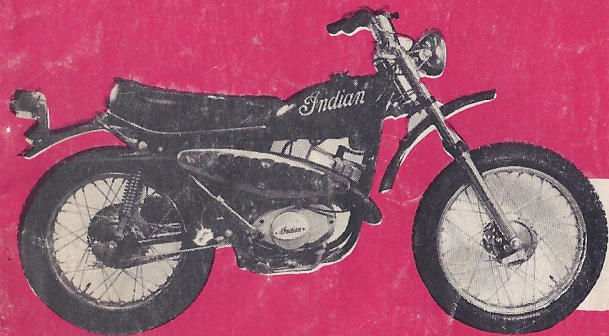


OWNERS MANUAL



SUPER ENDURO SE-74





FOREWORD

The Indian Motorcycle covered in this Owners Manual is the Model SE-74 Super Enduro, a quality Indian Enduro to smooth out any trail. This fine bike is American designed and engineered with safety-in-mind for the rider. The Owners Manual is your Riders Handbook, it will become your best friend while operating your Super Enduro on the street, track or trail. The procedures contained in this manual have been carefully prepared to acquaint you with all the proper handling and servicing procedures that you will require to keep your motorcycle in top operating condition.

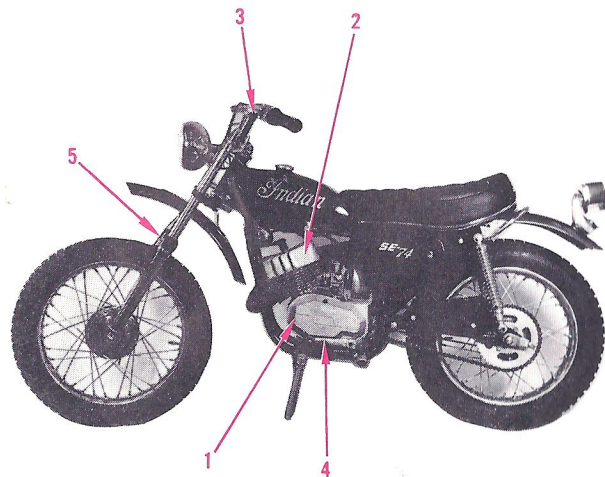
If you have any questions at any time, the Indian Dealer will be happy to assist you.

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CONTENTS

Features of Your Super Enduro	1
Operating Tips	3
Specification Data	5
Riding Hints	6
Starting Procedures	6
Gear Changing	7
High Speed Operation	8
Riding on Hills	8
Stopping and Parking	8
Operation of Ignition Switch and Lights	9
Inspection and Adjustments	11
Trouble	28

FEATURES OF THE SUPER ENDURO



- (1) **70 cc Two-Stroke Engine** — Smooth performing single cylinder 8 hp 70 cc engine with a compression ratio of 9:1, engineered for reliability and long life.
- (2) **Cylinder and Cylinder Head** — Light weight aluminum alloy cylinder and cylinder head with maximum cooling efficiency.
- (3) **Easy-To-Operate Clutch** — Hand operated multiple disc in oil clutch. Lever action is smooth for trail riding where frequent shifting is necessary.
- (4) **4-Speed Gear Box** — Left foot controlled 4-speed constant mesh transmission. Perfectly selected gear ratios provide for flexible engine operation in all types of riding conditions.
- (5) **Hydraulic Front Suspension** — Hydraulic front suspension to reduce road shocks and for comfortable rides.

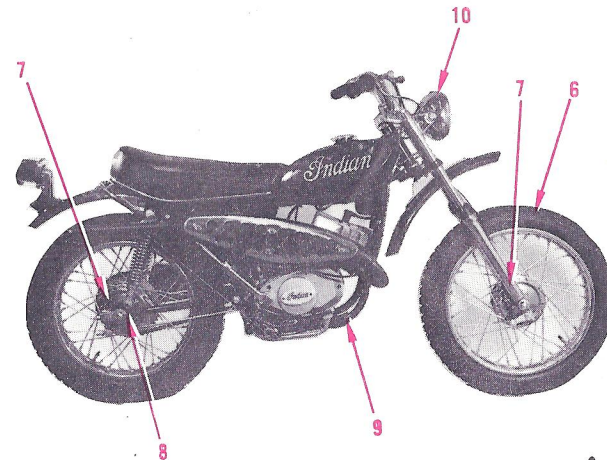
- (6) **Wheels** — 16 inch front tires and 15 inch rear tires for maximum rider safety and control. Not available on other minicycles in the same class.

- (7) **Internal Expanding Front and Rear Brakes** — Internal expanding front and rear brakes to make sure and fast stops. Front brake is hand operated. Rear brake is foot-controlled

- (8) **Adjustable Rear Swing Arm Suspension With Shock Absorber** — Three-way adjustable shock absorber providing for improved comfort and handling.

- (9) **Light Weight Frame** — Strong light weight frame design making the Super Enduro pounds lighter than minicycles in its class.

- (10) **Excellent Lighting Equipment** — Fully tested lighting equipment is employed for street use and maximum rider safety.



OPERATING TIPS

Super Enduro Owners should make both daily and periodic inspections to prolong the life of their motorcycles and to help prevent riding accidents.

Super Enduro Owners should, on a regular basis, check for the tightness of all important parts. This will also help prevent accidents and mishaps during riding.

Engine Warm-Up — Always warm-up the engine at a low speed for two minutes before riding. This will allow oil to begin proper circulation and the carburetor time to function properly when the engine is cold.

Racing the Engine — Do not race the engine at high speed without a load. The engine, if raced under these conditions, will be seriously harmed.

Starting the Motorcycle and Shifting Gears — Start the motorcycle gently in accordance with instruction in this manual. Excessive high speed upon starting is also harmful to your engine. The 4-speed gears should be shifted in accordance with the speeds given in this manual to prevent engine damage.

Change Gears Gently — Gently change gears by pressing or pulling gear change lever lightly with your toe while the clutch is engaged. Do not change gears roughly since rough handling will result in rapid wear of the transmission.

Operation with Air Cleaner Removed — Do not operate your Super Enduro with the air cleaner removed from the carburetor. If you do, dirt and dust will be inhaled into the engine causing more rapid wear.

Break-In Tips — Do not ride at high speeds, carry heavy loads, or operate your Super Enduro for long periods of time for the first 500 miles. Half throttle operation is recommended for this break-in period. This will allow the rings in your engine to properly seat. **NOTE:** Use a 16:1 gas-to-oil mixture for the first 12 hours running time.

Gasoline Recommendations

Use only premium gasoline.

Use only SAE 2-stroke motorcycle oil.

Premix a gas-to-oil mixture of 20:1. This mixture can be used in your Super Enduro from time of break-in period.

Assure that dirt, dust or water does not become mixed with the fuel.

Transmission Oil Recommendations

Use only SAE 30 weight non-detergent oil in the transmission of your Super Enduro.

Always drain used oil before refilling.

After filling, double check the oil filter plug and drain plug for tightness. Always check the tightness of oil inspection screw.

Washing Your Super Enduro — A clean machine is a matter of pride and it is also wise to keep your motorcycle in tip-top condition. Wipe dirt off the surface with a wet cloth or a cloth soaked in warm soapy water. If oil spots have to be removed, wipe with cloth soaked in gasoline.

SPECIFICATIONS

ENGINE — Model P4-70

Type: Single cylinder, two stroke, cast-iron cylinder and light alloy head
 Bore & Stroke 45 mm x 44 mm
 Displacement 69.9 cc
 Compression Ratio 9:1
 Brake Horse Power @ rpm 8 hp @ 7500 rpm
 Carburetion Dell 'Orto 19 mm
 Ignition Flywheel magneto, 33W-6V, external high tension coil
 Starting System Kick starting with folding crank
 Recommended Fuel, Premix 20:1, premium gas and SAE30, 2-stroke oil
 Fuel Tank Capacity 1.0 gallon
 Clutch Multiple disc in oil, hand operated
 Transmission Oil Capacity 16 ounces
 TRANSMISSION 4-speed, constant mesh, left foot controlled
 1 down, 3 up with the following ratios:

Overall: 1				Internal: 1			
1st	1:15.22	3rd	1:6.64	1st	1:3.30	3rd	1:1.44
2nd	1:9.55	4th	1:5.30	2nd	1:2.07	4th	1:1.15
Countershaft Sprocket							14 tooth
Rear Wheel Sprocket							34 tooth
Engine Weight							33 pounds

DIMENSIONS

Wheelbase	44½"
Seat Height	27"
Seat Width	8"
Handlebar Width	29"
Handlebar Height	36"
Footpeg Height	9"
Ground Clearance	7"
Dry Weight	135 pounds
Overall Length	65"

SUSPENSION

Front	Hydraulic
Rear	Swing arm with 3-way shock absorber

WHEELS AND BRAKES

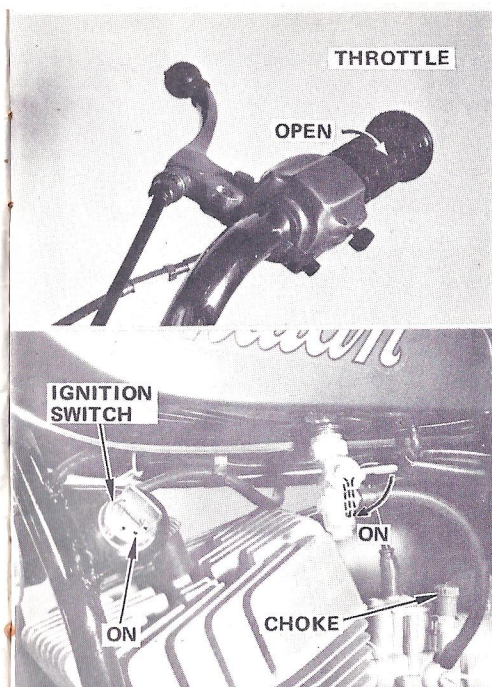
Front Tire	Trials-Universal 2.75 x 16"
Rear Tire	Trials-Universal 3.25 x 15"
Front Brake	Hand operated internal expanding
Rear Brake	Foot operated internal expanding
Wheels	W2 Spoke

AVAILABLE COLORS

Red, yellow, orange

STARTING

1. Assure that gear shift lever is in neutral position.
2. Turn the fuel cock lever and ignition switch to the "ON" position.
3. Choke the engine by pulling up the choke button and twisting.
4. Open the throttle about 1/8 to 1/4 turn and kick the kick starter.
5. After the engine fires, warm up the engine at medium speed.
6. When the engine is sufficiently warm, open the choke.



GEAR CHANGING

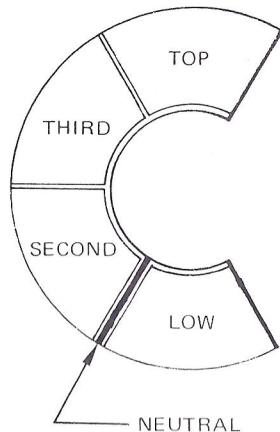
1. Pull in clutch lever fully and change gears by moving gear change lever gently up or down with toe to change gears.
2. To engage low gear, depress gear change lever down one time from neutral. To engage second, third, and top gear, pull up with toe to three positions above neutral. The operating angle between low and neutral and between neutral and second is approximately one half that between other gears to allow for rapid gear changing for racing and trail riding.

Normal Riding

Gear	
Low	0 to 9 mph
Second	6 to 20 mph
Third	16 to 25 mph
Top	Over 20 mph

High Speed Operation

Gear	
Low	0 to 12 mph
Second	10 to 22 mph
Third	20 to 35 mph
Top	Over 26 mph



HIGH SPEED OPERATION

For high speed riding on your Super Enduro, it is recommended that a spark plug with a higher heat range be used. Standard plug for your Super Enduro is NGK B8HS. When riding at high speed, use a NGK B9HS spark plug.

RIDING ON HILLS

Hill Climbing

1. Your Super Enduro can climb most hills in high gear. While ascending steep hills or when carrying a heavy load, shift down to third, second or low as required.
2. When shifting gears on your Super Enduro while climbing, make the shift as rapidly as possible. This will prevent the motorcycle from losing its momentum.

Riding Down Hill

1. Always close the throttle and apply front and rear brakes at the same time to reduce speed while descending.
2. When descending steep hills down shift to third, second, or first as required to help brake the motorcycle.

Close the throttle for using the engine as a brake.

Always apply the front and rear brakes at the same time with the same pressure.

STOPPING AND PARKING

Stopping

1. Apply front and rear brake at the same time to stop or brake your motorcycle. The motorcycle may skid or slide if only the rear brake is applied during quick stops. The front brake is hand-operated. The rear brake is foot controlled.
2. Shift into the neutral gear position after the motorcycle stops.

Parking

1. Turn the ignition switch off.
2. Close the fuel cock lever.
3. Push the footstand down with your left foot and lean motorcycle to left until it rests on stand.

OPERATION OF IGNITION SWITCH AND LIGHTS

SWITCH

Position	Operation	Key
0	OFF (All electrical circuits turned off)	Can be removed
I	Day time riding and starting engine (Stop light on)	Cannot be removed
II	Night riding and starting engine (All safety devices such as head light, tail light, and stop light turned on)	Cannot be removed

HEADLIGHT

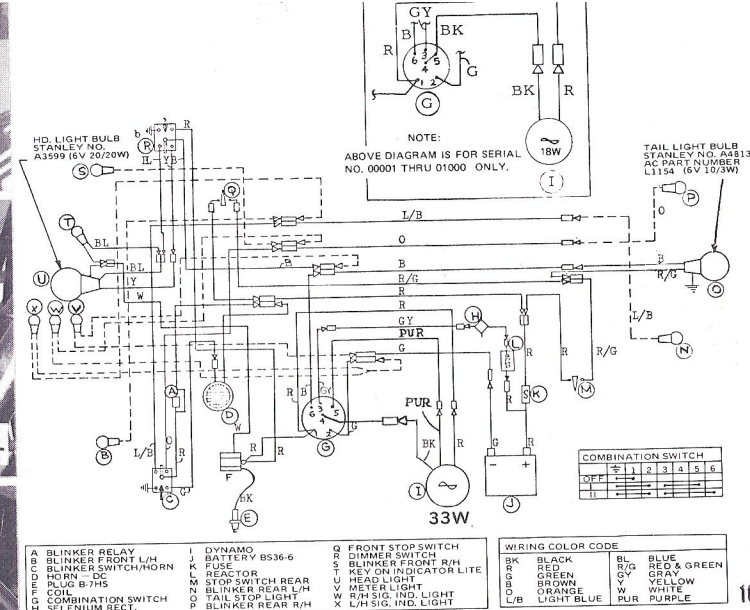
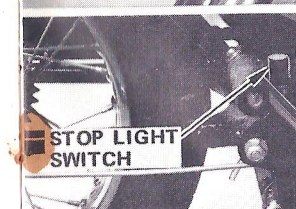
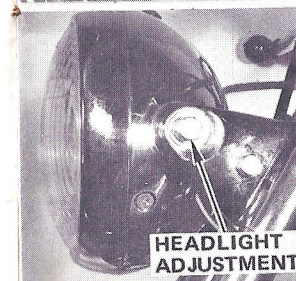
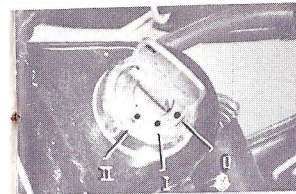
1. When the switch key is turned to position "II", the head light is turned on.
2. The head light beam should be positioned to illuminate an area 55 yards in front of the motorcycle.
3. For adjusting the head light beam, loosen the head light bracket bolts, adjust the head light angle by hand, and then retighten the bolts.

STOP LIGHT

1. The stop light operates when the ignition key is in either the "I" or "II" position.
2. Adjust the stop light switch so that the stop light turns on when the rear brake lever is depressed to the point just before the rear brake engages.
3. The standard stop light bulb is 6 V, 18 W.

TAIL LIGHT

1. The tail light turns on when the ignition key is in position "II"
2. The standard tail light bulb is 6 V, 5 W. One bulb normally contains both stop light and tail light filaments.



INSPECTION AND ADJUSTMENT

Tools Required for Service	16
Daily Inspection	11
Periodic Inspection	12
Changing Oil	13
Inspecting and Adjusting Brakes	14
Adjusting the Clutch	15
Adjusting Throttle	17
Adjusting Carburetor	17
Cleaning and Adjusting Spark Plugs	18
Cleaning the Air Filter	19
Adjusting the Drive Chain	20
Cleaning the Muffler	21
Ignition Point Inspecting and Adjusting	22
Timing Inspection and Adjusting	23
Inspecting Tightness of Nuts and Bolts	24
Removing the Front Wheel	25
Removing the Rear Wheel	26
Inspecting Battery Level	27

INSPECT THE MOTORCYCLE DAILY BEFORE RIDING

1. Does steering feel light?
2. Is front brake lever play correct?
3. Is there too much rear brake travel?
4. Does clutch work properly?
5. Is engine oil at proper level?
6. Do you have enough fuel to get you there?
7. Is front tire pressure within 25 psig?
8. Is rear tire pressure within 28 psig?
9. Do you notice any loose hardware?
10. Is the drive chain properly adjusted and lubricated?
11. Does throttle operate correctly?
12. Do head light, tail light and stop light turn on?

PERIODIC INSPECTION

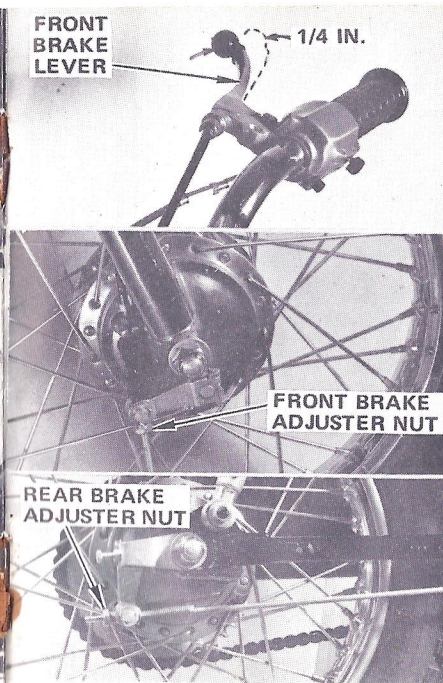
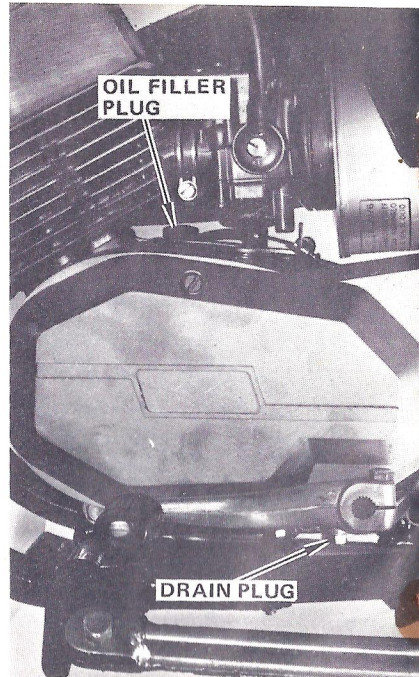
Ref Letter	Item	Mileage 200 New Machine	Mileage 500 New Machine	Regular Maintenance Intervals After Break-In
A	Change gear box oil	x	x	Every 1000 Miles
B	Check and Adjust Clutch		x	Every 1000 Miles
C	Check and Adjust Throttle	x	x	Every 1000 Miles
D	Check and Adjust Hand Brake Levers	x	x	Every 1000 Miles
E	Check and Adjust Foot Brake Travel	x	x	Every 1000 Miles
F	Check and Adjust Carburetor	x	x	Every 1000 Miles
G	Check and Clean Air Cleaner		x	Every 1000 Miles or sooner if used in dirt conditions
H	Clean Carbon from Muffler and Inner Pipe			Every 500 Miles
I	Clean, Adjust, and Oil Chain		x	Every 1000 Miles
J	Inspect and Tighten Spokes			Every 1000 Miles
K	Check for and Tighten Loose Hardware	x	x	Daily and Every 1000 Miles
L	Clean Spark Plug	x	x	Every 500 Miles
M, N	Inspect Tires and Pressure	x	x	Daily and Every 300 Miles
O	Check Battery Level	x	x	Every 1000 Miles
P	Check Head Light, Tail Light and Brake Light	x	x	Daily and Every 1000 Miles

CHANGING OIL

- Remove drain plug.
- Remove oil filler plug.
- Drain oil.
- Replace drain plug.
- Pour in 16 ounces of 30 weight non-detergent oil in filler hole.
- Replace filler plug.
- Check for presence of oil level at Indian nameplate with motorcycle in upright position.

Helpful Hints:

- Drain oil when oil in engine is warm.
- Do not operate with dirty oil. Check periodically and change as required. Frequent oil changes result in excellent operation.
- Remove drain plug and drain oil. Replace drain plug. Remove "Indian" nameplate and pour in 16 ounces of oil. Replace nameplate.



INSPECTING AND ADJUSTING BRAKES

- The front brake lever should have only 1/4" of play between tip of lever and tip of handlebar. Check the amount of play as follows:
 - Sit on motorcycle in riding position.
 - Check lever play of front brake lever by squeezing lever and measuring play.
 - To assure that lever engages front brake properly, squeeze levers tightly and using feet try to push motorcycle forward.
 - If front brake lever play is more than 1/2" or brake does not engage properly, simply adjust the handlebar lever screw or the adjuster on the front wheel.
- The rear brake foot controlled lever on the left side of the motorcycle near the engine should be checked in the same manner as the front brake lever only:
 - Full weight of rider should be on motorcycle while making adjustment.
 - Brake adjuster is on rear wheel of motorcycle.

CAUTION:

The brakes are your "Life Line". Be sure to check them every time you ride your motorcycle.

ADJUSTING THE CLUTCH

a. Squeeze clutch lever and check play at end of clutch lever. There should be 0.4 inches of play at end of clutch lever before the clutch begins to disengage.

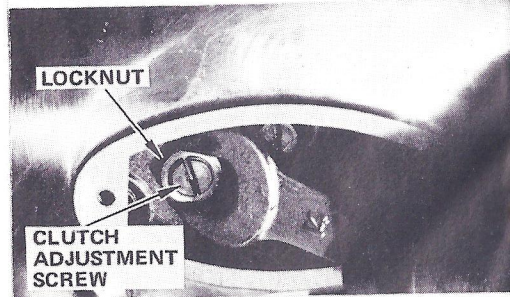
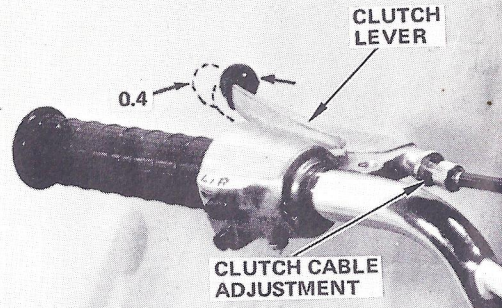
b. To adjust clutch lever, adjust clutch cable adjuster on clutch lever. If additional adjustment is required, remove right engine inspection plate and adjust clutch adjustment screw and lock nut.

(1) If clutch slips — Turn adjuster counter-clockwise.

(2) If clutch drags — Turn adjuster clockwise.

CAUTION:

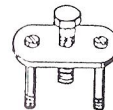
There must be at least 1/16 inch of free play at clutch actuating rod or the clutch will be seriously damaged.



U1-2



U2-3



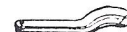
U2-1



U2-4



U2-6



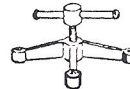
U2-8



U2-11



U29-1



U42-1

SPECIAL TOOLS

The special service tools required to maintain your Super Enduro are as follows:

Part No.	Used On	Application
U2-1	Clutch	Extractor for the clutch bearer disk
U42-1	Engine	Extractor for the crank shaft
U2-3	Transmission	Extractor for the gear box sprocket
U1-2	Engine	Extractor for the flywheel magneto
U2-4	Engine	Extractor for the engine sprocket
U2-6	Clutch	Holding wrench for the clutch stud bearer disc
U2-11	Clutch	Wrench for clutch adjustment
U29-1	Engine	Holding wrench for the flywheel magneto
U38-2	Clutch	Clutch Hub Wrench
U2-8	Transmission	Spk. Wrench No. 415
U38-3	Engine	Plug Wrench
U2-10	Transmission	Spk. Wrench No. 420

ADJUSTING THROTTLE

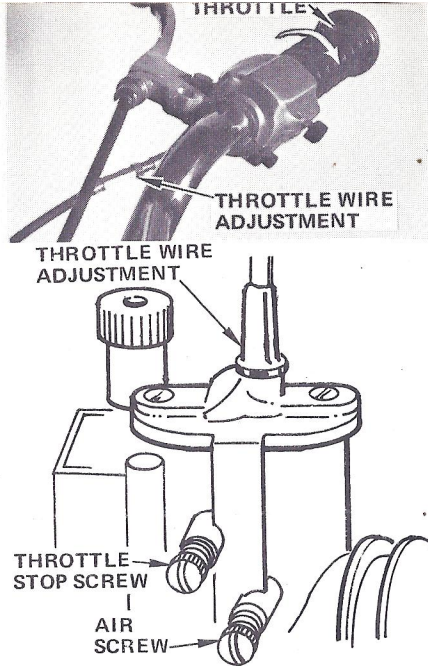
- a. Sitting in riding position, slowly twist grip assembly and assure that engagement of throttle is felt after 1/8" movement of grip.
- b. Adjust throttle wire or adjustment screw as necessary.

ADJUSTING CARBURETOR

- a. Use the air screw to adjust the carburetor.
 - (1) Turn air screw (clockwise) lightly down onto its seat.
 - (2) Back air screw out 3/4 to 1-1/2 turns.
- b. Start engine, if engine does not run smoothly, turn air-screw 1/4 turn in and adjust engine idle for 2,000 rpm operation with throttle stop screw.
 - (1) Turn throttle stop screw in to increase RPM.
 - (2) Turn throttle stop screw out to decrease RPM.

Helpful Hints:

1. Adjust carburetor when the engine is warm.
2. Defective operation of the engine during acceleration or at high speeds is sometimes a sign of a defective ignition system. Determine the cause before adjusting the carburetor.



CLEANING AND ADJUSTING SPARK PLUGS

1. To clean spark plug:

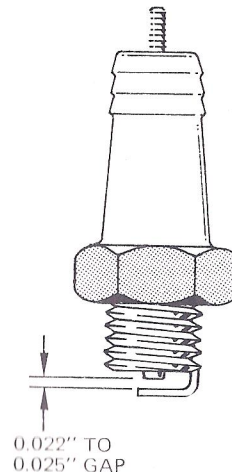
- a. Remove spark plug from engine.
- b. Clean with approved cleaning solvent or gasoline using a wire brush.
- c. Wipe dry with a clean shop rag.

2. To adjust the spark plug:

- a. Check spark plug gap.
- b. If gap is not within 0.022" to 0.025", set as required.

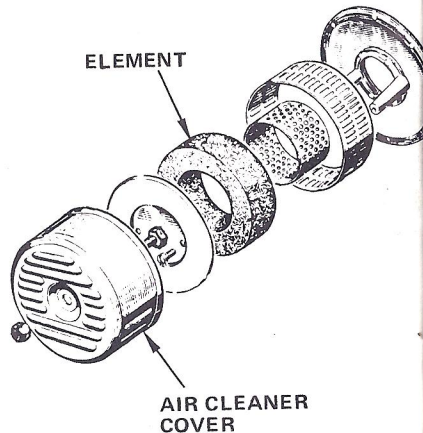
Helpful Hints:

1. When installing spark plug, first screw plug in by hand and then tighten securely with spark plug wrench.
2. Do not attempt to clean plugs by burning the electrode.
3. You may also use an NGK B8HS, Champ. L-36, L4J, L66Y, Auto-Lite AE903, or Bosch W270T16.



CLEANING AIR CLEANER

- Remove the air cleaner from the carburetor.
- Remove the air cleaner cover and then remove the cleaning element.
- Soak in solvent to clean. Squeeze dry.
- Oil the element with 30 weight oil and squeeze out excess.
- Replace the air cleaner in the reverse order of removal.



ADJUSTING DRIVE CHAIN

To Adjust Drive Chain:

- Loosen rear axle nuts and inspect the drive chain.
- There should be 0.4" to 0.8" of slack in the drive chain midway between the sprockets.
- Adjust chain adjuster screws in or out to obtain proper slack.

NOTE

Screws must be adjusted evenly for proper adjustment.

- Tighten the rear axle nuts.
- Wash the chain with gasoline and lubricate it with oil or chain grease periodically. Lack of proper lubrication can cause stiff chain links and will result in unusual sprocket wear.

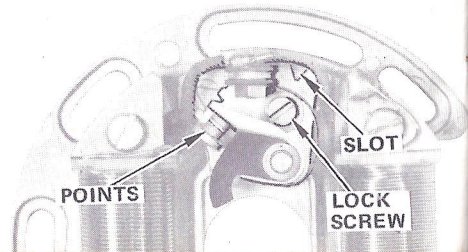
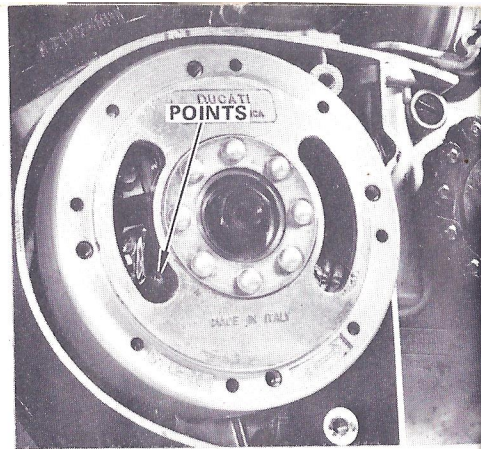


CLEANING THE MUFFLER

- a. Remove inner core from tail pipe and remove fiberglass packing from core.
- b. Heat inner core with torch and lightly tap to remove carbon deposits.
- c. Replace fiberglass packing with new fiberglass.
- d. Replace inner core assembly in tail pipe and replace holding screws and tighten.

Helpful Hints

Muffler should be cleaned every 500 miles.



IGNITION POINT INSPECTION AND ADJUSTMENT

a. Ignition point inspection — cleaning

- (1) Remove left engine cover to expose the flywheel.
- (2) Locate the points looking through the flywheel slot.
- (3) Manually rotate the flywheel counterclockwise until the points are fully open.
- (4) Obtain a clean white piece of bond paper (or a thin business card) and carefully insert between the points.
- (5) Manually rotate the flywheel counterclockwise until the points close and carefully draw the paper out.
- (6) Inspect the paper for signs of dirt or soils.
- (7) If paper is clean proceed to step b. If paper is dirty, repeat steps (3) through (6) until all dirt and oil is removed from points.

b. Ignition point gap inspection.

- (1) Manually rotate flywheel until the piston is at T.D.C.
- (2) Using feeler gauge check that the point gap is between 0.013 and 0.015.

c. Ignition point gap adjustment (if necessary)

- (1) Manually rotate flywheel until the piston is at T.D.C.
- (2) Insert feeler gauge between points and loosen the back plate lock screw of points.
- (3) Carefully insert screwdriver head into convenience slot and move backplate in the direction necessary to obtain correct feel gauge reading between 0.013 and 0.015".
- (4) Holding the back plate in the proper position, carefully tighten the back plate lock screw.

d. Replace the left engine cover.

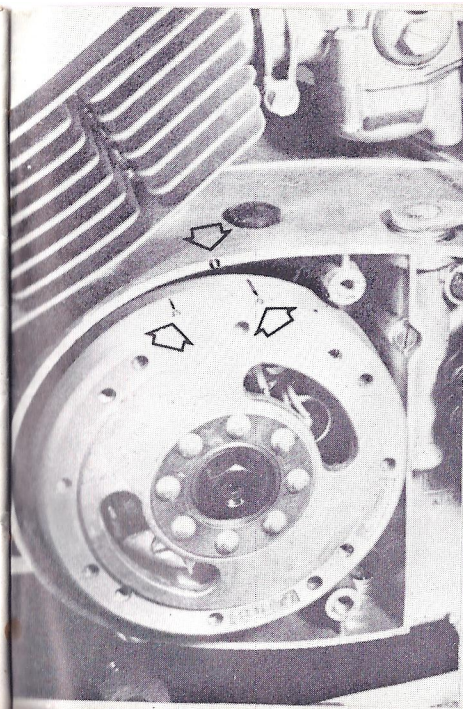
TIMING INSPECTION AND ADJUSTMENT

Ignition timing is very critical and should be performed by a qualified mechanic. The step-by-step ignition timing procedure should be performed as follows:

- a. Remove the left engine cover to expose the flywheel.
- b. Contact breaker point gap adjustment.
 - (1) Locate the contacts through the flywheel slot.
 - (2) Use a dial indicator or insert a very thin strip of cellophane paper between contacts, stretched slightly, then manually rotate the flywheel slowly in the counterclockwise direction.
 - (3) Continue rotating the flywheel slowly until the dial indicator reads 2.8 to 3.0 mm before top dead center (BTDC) or until the cellophane is seen coming out of the contacts. Stop rotation of flywheel at this point.
 - (4) Locate one mark on top of flywheel and one mark on the case. The mark "O" on the case represents top dead center (TDC) and the mark "A" on the flywheel represents BTDC.
 - (5) While observing the marks on the flywheel and the mark on the case, continue to slowly rotate the flywheel counterclockwise observing that the contacts open just as the mark "A" on the flywheel crosses the mark "O" on the case.
 - (6) Repeat steps (1) through (5) until satisfied that the contacts begin to open before the piston reaches 2.9 mm before TDC.
 - (7) If contact breaker gap is not within limits, adjust gap for 0.012 to 0.015 and repeat steps (1) through (6).
- c. Replace the left engine cover.

Helpful Hints:

Dirty contact points will cause defective ignition — Keep them clean at all times.



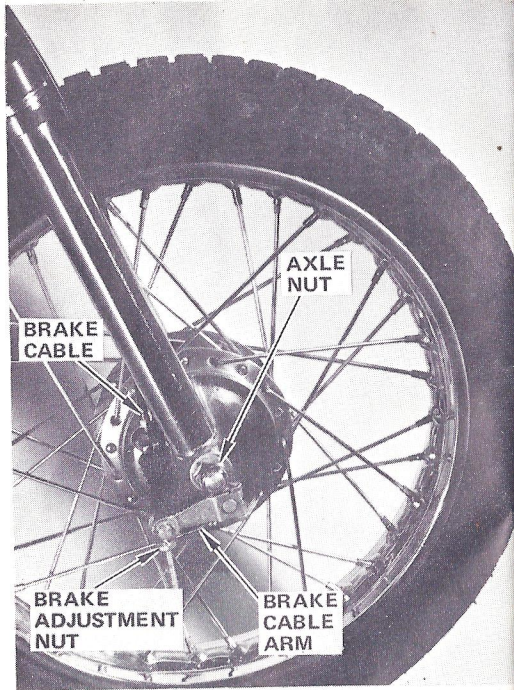
INSPECTION TIGHTNESS OF NUTS AND BOLTS

Checking these nuts and bolts should be part of your daily and weekly inspections.

1. Front and rear axle nuts.
2. Upper and lower suspension nuts (front and rear)
3. Front and rear wheel spokes.
4. All engine cover bolts.
5. Drain plug.
6. Oil filler plug.
7. Fork crown and triple clamp bolts.
8. Foot peg assembly bolts.
9. Rear swing arm suspension bolts (top and bottom)
10. Foot stand bolt and nut.
11. Front and rear lights.
12. Rear brake hardware.

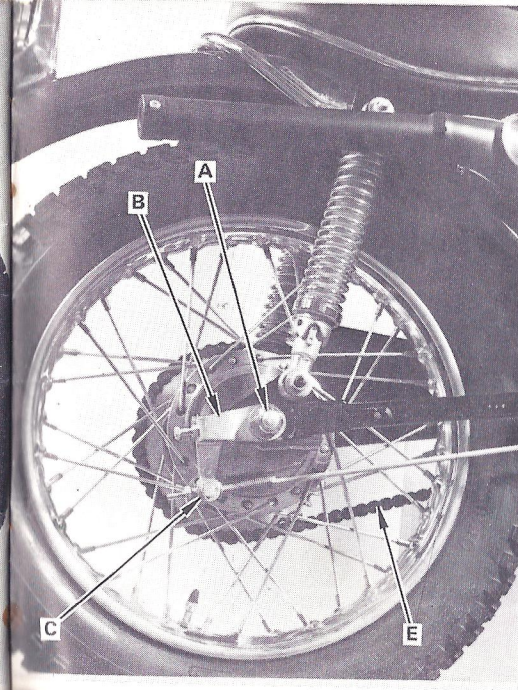
REMOVING THE FRONT WHEEL

- Elevate the motorcycle front wheel by placing a block under engine.
- Remove the brake adjusting nut and remove brake cable from brake arm and holder.
- Remove the axle nut and pull out the axle.
- Remove the front wheel.



REMOVING THE REAR WHEEL

- Remove the rear axle nuts and washers.
- Remove the chain adjuster.
- Remove the brake rod from brake cable arm.
- Slide wheel as far forward as possible.
- Remove the drive chain.
- Remove the rear wheel.



BATTERY SERVICING PROCEDURE

Prior to operation, the battery must be properly serviced as indicated in the following step-by-step procedure:

- a. Assure that ignition switch is in the off position (fully ccw).
- b. Remove the battery from left side of motorcycle per wiring diagram:
- c. Service the Battery as follows:
 - (1) Disconnect battery strap and remove battery.
 - (2) Remove three access plugs from top of battery.
 - (3) Being extremely careful, fill battery with approved battery acid up to "upper level mark."
 - (4) Replace and tighten the three access plugs and tighten.
- d. Replace Battery in motorcycle as follows:
 - (1) Position battery in battery holder (Indian decal facing forward) and insert overflow tube down between top and bottom engine mounts.
 - (2) Replace rubber battery strap.
 - (3) Reconnect per wiring diagram.
 - (4) Tuck wiring harness into access area rear back side of fender.
 - (5) Replace side plate covers, washers and bolts.

TROUBLES

When you encounter troubles, it is recommended that you take your Super Enduro to the nearest Indian Dealer for repairs. He is fully qualified to solve your problems.



THE

Indian

MOTORCYCLE COMPANY

1525 West Rosecrans Avenue Gardena, California 90249

