

## SECTION 7 - MISCELLANEOUS

**MERCURY**  
**SNOWMOBILES**

### PART A - CONTROLS



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# CONTROLS

## 200, 220, 250, ROCKET (339cc) and LIGHTNING (398cc)

### GENERAL

This section covers removal, inspection and installation procedures for vehicle controls. Smooth, quick-responding, control action is essential to operator safety and vehicle performance. In all cases, brake control levers are installed on left side of handlebar for finger operation. Throttle control levers are installed on right side of handlebar for thumb operation.

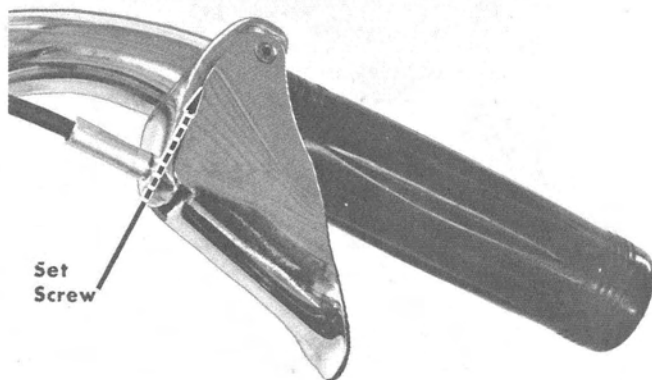
*NOTE: Control levers may be positioned on handlebar to accommodate personal preference.*

Choke on Rocket, Lightning and 200 (292cc) Models is controlled by manually operating the carburetor choke lever which is easily accessible to the operator.

## BRAKE and THROTTLE CONTROLS

### REMOVAL

1. Open or remove top cowl.
2. Remove louvered dash panel (Rocket and Lightning Models).
3. Loosen nut on brake cable clamping screw. Pull out cable and remove spring. Remove snap fitting from cable mounting bracket and pull core wire thru bracket.
4. Loosen set screw in carburetor cable anchor and remove cable. Remove snap fitting from cable mounting bracket and pull core wire thru bracket.
5. Cut sta-straps which retain brake and throttle cables.
6. Remove and discard cable retaining grommet from dash (220 and 250 Models).
7. Remove handlebar grips.
8. Loosen set screw in throttle and brake control lever, slide levers off handlebar and pull cables thru dash opening. (Figure 1)



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Figure 1. Throttle/Brake Control Lever

### DISASSEMBLY

To prevent any possibility of throttle and/or brake component malfunction from incorrect assembly or repair, throttle and brake controls are available only as an assembly. (Figure 2)

**IMPORTANT:** Further disassembly of throttle and brake controls will void the warranty.

All throttle and brake control components (control levers, cables and core wires), previously replaceable individually, are No Longer Available (NLA).

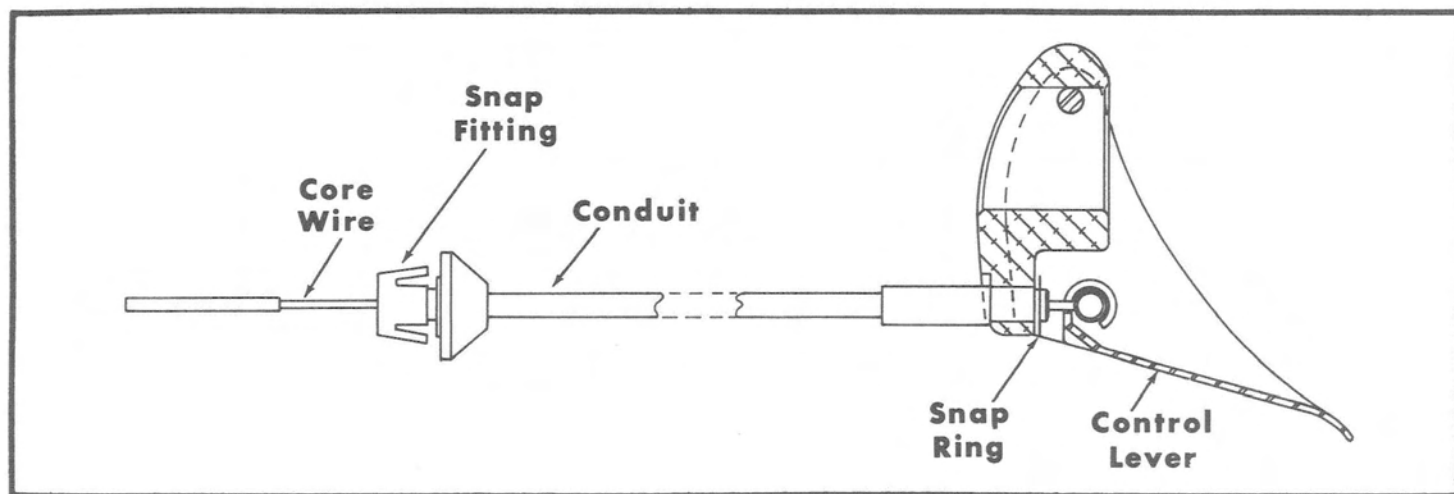


Figure 2. Control Assembly

# INSPECTION

1. Check lever for wear and freedom of movement.
2. Check core wire for breaks and free movement in conduit.
3. Check trunion end of core wire for wear and make sure that trunion is free to rotate in retaining tabs, thru normal travel of lever.

4. Inspect retaining ring on core wire for wear or breaks.
5. Inspect conduit for cracks or breaks.
6. Check snap fitting on conduit to make sure that retaining tangs are not cracked or broken.
7. Inspect brake return spring for tension and/or distortion.

# INSTALLATION

**NOTE:** A new throttle control kit, identified by a **YELLOW** color band near the bottom end of the throttle cable, must be installed. All throttle cables with **NO** color band or with a **RED** or **ORANGE** color band indicates an old style throttle cable which **MUST BE REPLACED**.

**WARNING:** Failure to change the old throttle control may result in throttle sticking, with subsequent damage to snowmobile, bodily injury and liability on the part of the dealer. Therefore, be sure to comply with this modification program!

1. Slip brake and throttle levers on handlebar (throttle lever on RH side and brake lever on LH side) and insert cables thru dash opening.

**CAUTION:** Be sure that throttle cable is attached to carburetor and brake cable is attached to brake.

2. Install grips on handlebar.

**NOTE:** To aid installation of grips, soak grips in warm water for a few minutes. Use water only. **DO NOT** use any other lubricant, or grips may not adhere to handlebar.

3. Position brake lever on handlebar for operation with fingers. Depress brake lever and tighten allen set screw. (Figure 1)
4. Position throttle lever against end of handle grip for thumb operation. Depress throttle and tighten allen set screw. (Figure 1)
5. Guide core wires thru cable anchors and insert snap fittings into mounting brackets.

**IMPORTANT:** Make sure that snap fitting is anchored securely in mounting bracket.

6. Secure brake and throttle cables as follows:

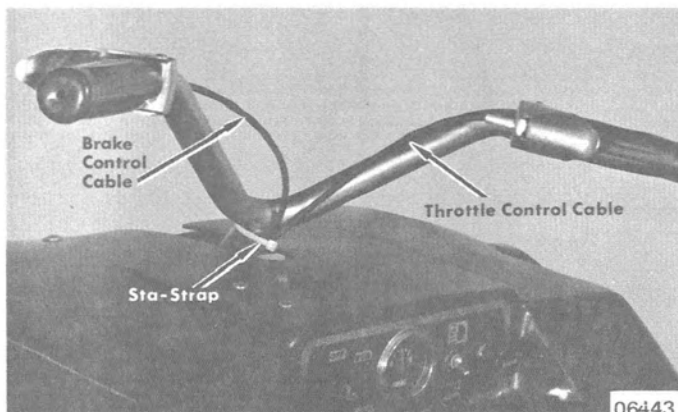


Figure 3. Sta-Strap Installed on Steering Post

## MODELS 220 and 250

- a. Fasten throttle and brake cables to steering post with one sta-strap, as shown in Figure 3.
- b. Fasten brake cable to steering support with one sta-strap, as shown in Figure 4.
- c. Secure throttle cable in "J" clip under front of terminal block. (Figure 4)

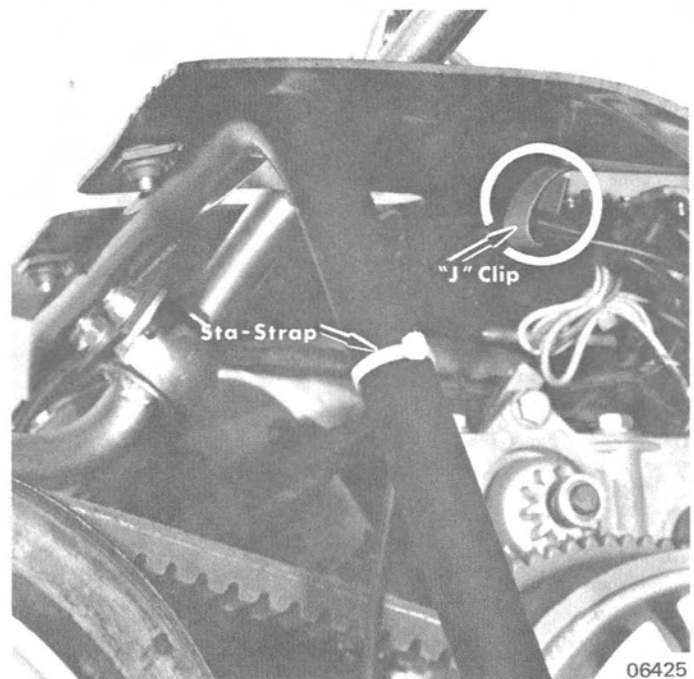


Figure 4. Sta-Strap Installed on Steering Support

## MODEL 200

Fasten throttle and brake cable to steering post with one sta-strap. (Figure 3)

## ROCKET (339cc) and LIGHTNING (398cc)

No fasteners are required.

7. Adjust brake as follows:
  - a. Pull cable snug and torque clamping screw to 2 ft. lbs.
  - b. Start one end of return spring on cable and twist spring until completely spiralled onto cable.
  - c. Remove cotter pin from brake assembly. (Figure 5)
  - d. Tighten adjusting nut until brake discs cause a drag on driven sheave, then back nut off 1/2-turn and reinsert cotter pin.

**NOTE:** When properly adjusted, brake control lever will have approximately 1/4" of "free travel" before brake engages.



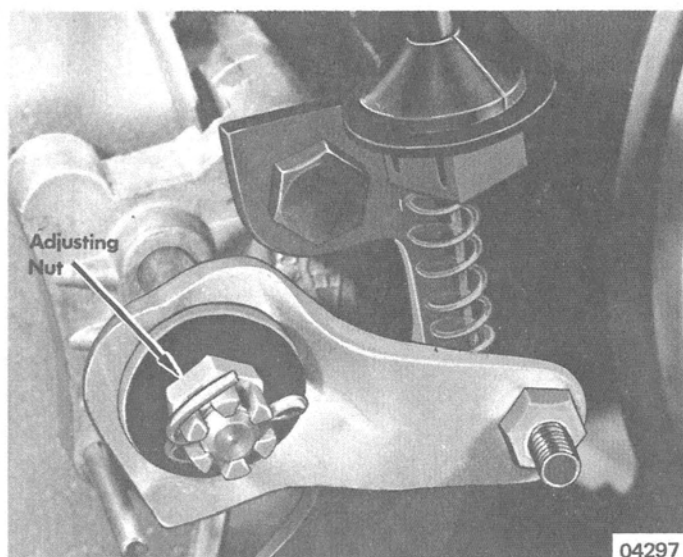


Figure 5. Brake Assembly

8. Adjust brake mounting bracket so that brake disc contacts flat surface of driven sheave and not the rolled edge. (Figure 6)

*NOTE: This adjustment must also be made each time chain tension is adjusted.*

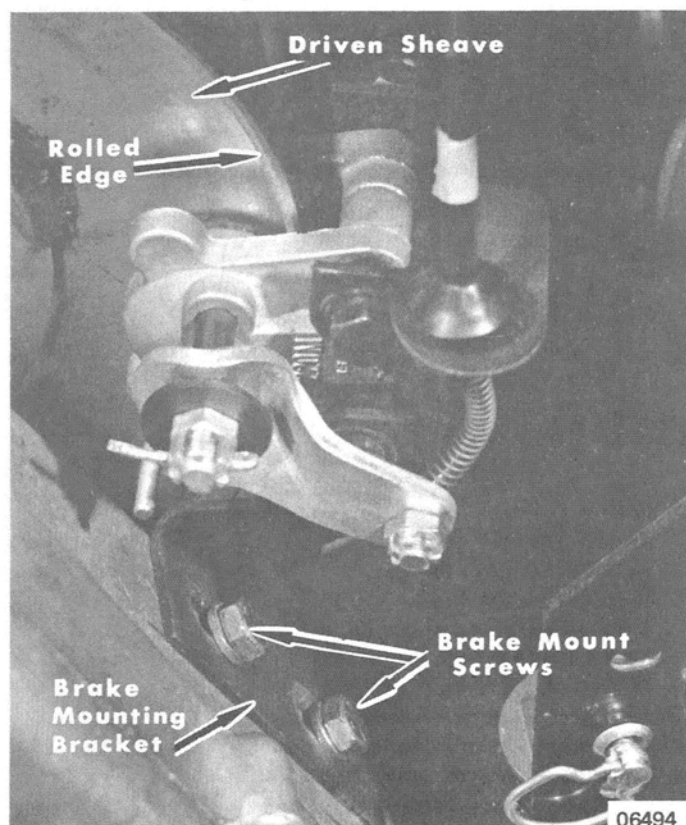


Figure 6. Adjusting Brake Mounting Bracket

*NOTE: When servicing Rocket and Lightning Snowmobiles, check the brake assembly to ensure that the mounting bolts, which support the brake shoes within the brake mounting bracket, are properly secured. For brake alignment purposes, brake shoe mounting is designed to permit free travel of the brake shoes as a unit on the spacers within the mounting bracket. The mounting bolts must be tight enough, however, to eliminate any free play between both brake shoe halves.*

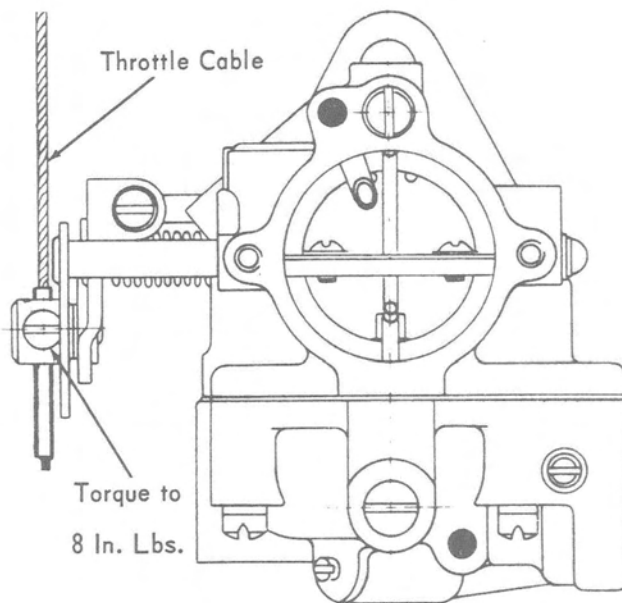


Figure 7. Adjusting Throttle Cable

9. Adjust throttle cable as follows:
  - a. Hold throttle lever against handlebar in wide open position.
  - b. Open throttle plate in carburetor to full open position.
  - c. Remove slack from cable by pulling core wire thru cable anchor and torque anchor set screw to 8 in. lbs. (Figure 7)

*NOTE: Above adjustment procedure allows lever on handle to act as throttle stop at wide-open position and prevents stretching of cable.*

**WARNING:** Actuate several times to make sure that throttle shutter and cable operate freely without sticking or binding before starting engine.

10. Install louvered dash panel (Rocket and Lightning Models).
11. Close or install top cowl.

# CHOKE and IGNITION ADVANCE CONTROL (220 MODEL)

## REMOVAL

1. Remove top cowl.
2. Partially remove the dash by removing the following:
  - a. Bolt and nut from dash support bracket (located under drive sheave on left side of engine).
  - b. Two mounting screws that hold dash to steering support.
  - c. Wiring harness from clamp located on front of blower housing.
  - d. Rubber grommet holding control cables to dash.
  - e. On models equipped with dash mounted primer pump, it may be necessary to remove hoses.
  - f. Lift seat and untie seat retaining rope.
  - g. Pull dash up and back slightly and push starter handle and grommet thru hole in dash.
  - h. Continue to lift dash and pull back until it clears blower housing assembly.
3. Remove 8 hex head screws from blower housing assembly.
4. Remove blower housing assembly.
5. Loosen adjusting nuts on ignition advance cable and unhook core wire from advance positioning plate. (Figure 1)
6. Loosen adjusting nuts on choke control cable and unhook core wire from carburetor choke lever.
7. Remove 2 screws and speed nuts which attach choke and ignition advance control to dash.
8. Remove choke and ignition advance control.

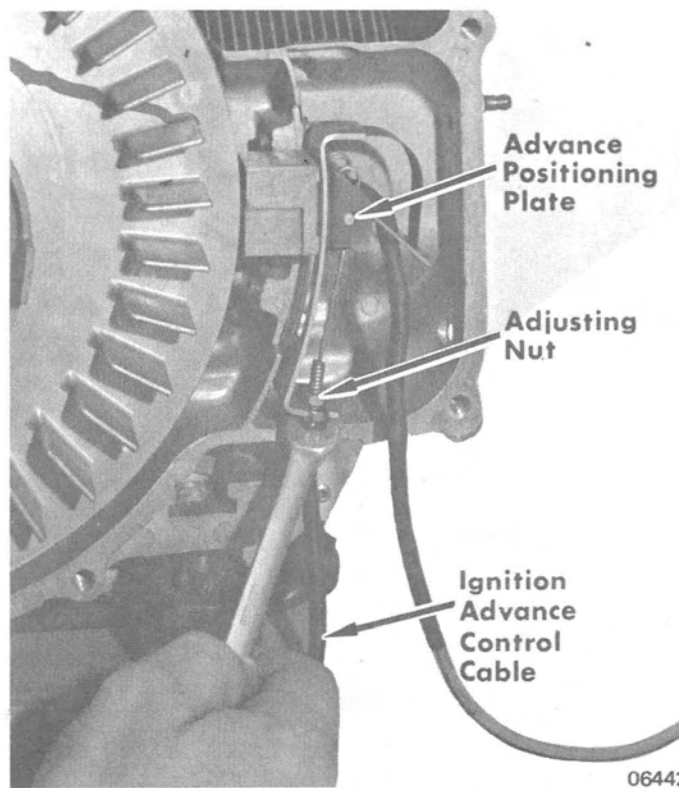


Figure 1. Loosening Adjusting Nuts on Ignition Advance Cable

## INSPECTION

1. Inspect core wire for breaks and freedom of movement in conduit.
2. Inspect levers for freedom of movement.

## INSTALLATION

1. Insert control cables thru control opening and position control on dash.
  2. Attach control to dash with 2 screws and speed nuts.
- NOTE: On electric reversing models, reverse control plate must be positioned before attaching control to dash.*
3. Hook choke cable core wire in carburetor choke lever.
  4. Hook ignition advance core wire in advance positioning plate. (Figure 1)
  5. Push dash forward and down until in place.
  6. Adjust ignition advance.
    - a. Place ignition advance lever in run position.
    - b. Place trigger coil in run position, top of trigger coil plate.
    - c. Secure cable to mounting bracket with 2 adjusting nuts. (Figure 1)
  7. Lift dash and pull back until it clears blower housing back plate.
  8. Position blower housing on back plate and attach with 8 screws. Be sure that ignition advance cable grommet is installed in notch between blower housing and back plate.
  9. Reinstall dash as follows:
    - a. Push dash forward and down until in place.
    - b. Push starter handle and grommet thru hole in dash and install grommet.
    - c. Tie retaining rope and lower seat.
    - d. Install primer pump hoses (if removed).
    - e. Install rubber control cable grommet.
    - f. Place wiring harness in clamp on front of blower housing.
    - g. Attach dash to steering support with 2 screws and to dash support bracket with screw and nut.
  10. Adjust choke cable.
    - a. Place choke control lever in choke position.
    - b. Place carburetor choke lever in choke position.
    - c. Secure cable to mounting bracket with 2 adjusting nuts.
  11. Install top cowl.

# CHOKE CONTROL (250 MODEL)

## REMOVAL

1. Remove top cowl.
2. Remove 4 screws which attach dash to steering support.

*NOTE: Retaining nut on choke control is accessible on manual models without repositioning dash.*

3. Lift off main seat.
4. Unhook inspection door spring (if so equipped) from retainer under fuel pump.
5. Loosen choke cable adjusting nut on top of cable

6. Unhook core wire from carburetor choke lever.
7. Pull dash up and back slightly and push starter handle and grommet thru hole in dash.
8. Continue to lift dash and pull back until it clears blower housing.
9. Cut sta-strap which secures choke control cable.
10. Remove nut and lockwasher, which attaches choke control to dash, and pull control and cable thru dash opening. Be careful not to lose lockwasher and nut when pulling cable thru dash.

## INSPECTION

1. Inspect conduit and core wire for breaks.
2. Make sure that control operates smoothly and core wire moves freely in conduit.

## INSTALLATION

1. Inspect end of choke control cable thru dash opening and slide control attaching nut and lockwasher on cable.
2. Attach choke control to dash.
3. Attach control cable to wiring harness with sta-strap.
4. Push dash forward and down until in place.
5. Guide starter handle thru dash opening and install grommet.
6. Route control cable to carburetor and hook core wire in

- choke lever.
7. Pull choke control into choke position.
8. Place carburetor choke lever in choke position and secure control cable to mounting bracket with adjusting nuts.
9. Hook inspection door spring in retainer under fuel pump.
10. Install main seat.
11. Install 4 dash attaching screws.
12. Install top cowl.

# CHOKE CONTROL (200 MODEL)

## REMOVAL

1. Loosen control cable clamping screw in carburetor choke lever and remove core wire.
2. Remove nut and lockwasher which attach choke control to dash.
3. Pull choke control and cable out of dash. Be careful not to lose nut and lockwasher when removing cable.

## INSPECTION

1. Inspect conduit and core wire for breaks.
2. Make sure that control operates freely and core wire moves freely within conduit.

## INSTALLATION

1. Insert control cable thru dash opening and slide lockwasher and nut over end of cable.
2. Attach choke control to dash.
3. Pull choke control knob into choke position.
4. Place carburetor choke lever in choke position.
5. Insert core wire thru carburetor choke lever and tighten clamping screw.

# CONTROLS - HURRICANE (644cc)

This part covers removal, inspection and installation of controls on Hurricane (644cc) Model. Smooth, quick-responding control action is essential to operator safety and vehicle performance. The brake control lever is installed on left side of handlebar for finger operation. The throttle control lever is installed on right side of handlebar for thumb operation. The Emergency Stop Switch is installed on right

side of handlebar in front of throttle control.

*NOTE: Brake and throttle control levers may be positioned on handlebar to accommodate personal preference.*

Choke is actuated by pulling choke knob (located on dash).

## BRAKE and THROTTLE CONTROLS REMOVAL

### THROTTLE

1. Raise top cowl.
2. Loosen set screw on carburetor linkage. (Figure 1)

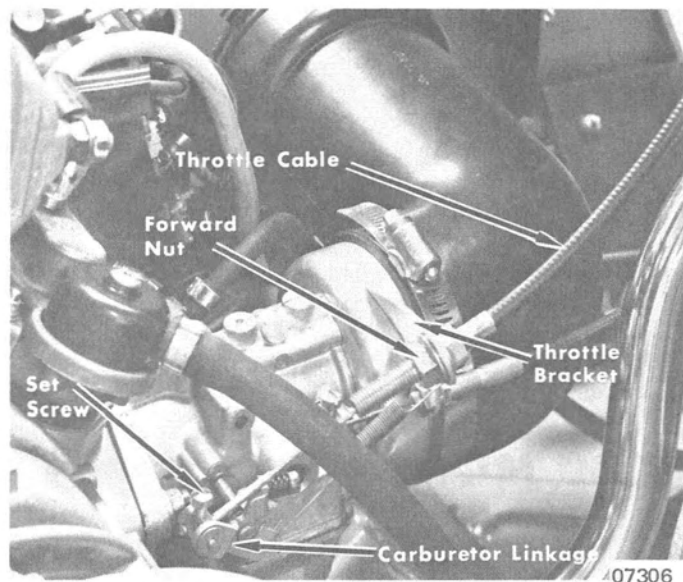


Figure 1. Throttle Cable to Carburetor

3. Remove forward nut from throttle bracket. (Figure 1)
4. Loosen set screw in throttle lever. (Figure 2) Slide lever against handlebar grip and pull grip and lever off handlebar. Pull throttle cable thru dash opening.

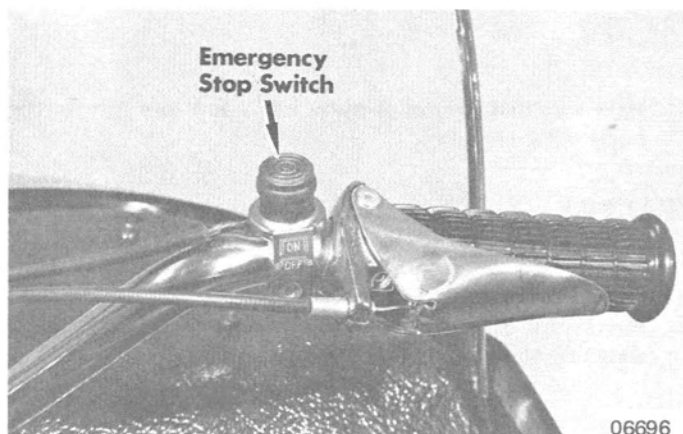


Figure 2. Throttle/Emergency Stop Switch

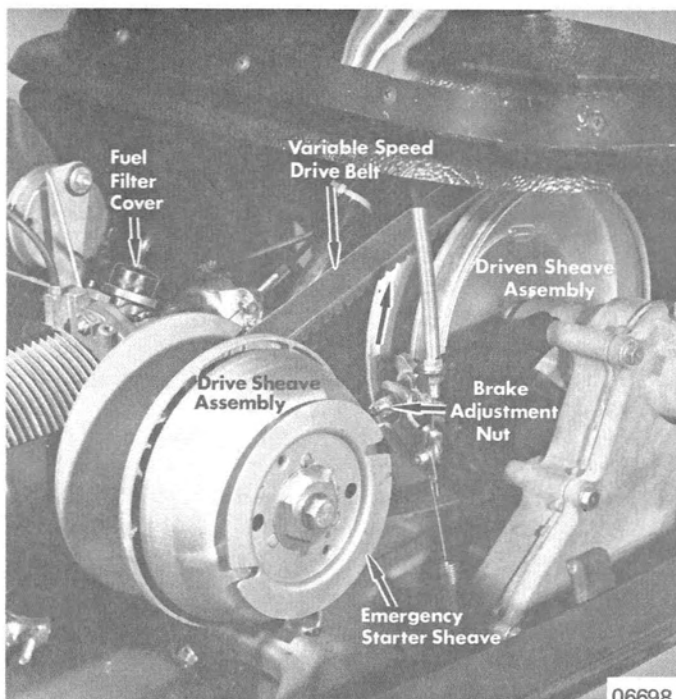


Figure 3. Brake Assembly

### STOP SWITCH (Figure 2)

1. Disconnect stop switch lead connection for wiring harness.
2. Loosen clamp, which holds stop switch to handlebar, slide switch off handlebar and pull cable thru dash opening.

### BRAKE

1. Relieve tension on brake assembly by removing spring. (Figure 3)
2. Remove brake core wire from clevis. (Figure 3)
3. Remove forward nut from brake cable bracket.

*NOTE: Removal of brake lever from handlebar is identical to removal of throttle lever from handlebar.*

4. Loosen set screw in brake lever (Figure 2), slide lever against handlebar grip and pull grip and lever off handlebar. Pull brake cable thru dash opening.

## DISASSEMBLY

To prevent any possibility of throttle and/or brake component malfunction from incorrect assembly or repair, throttle and brake controls are available only as an assembly.

**IMPORTANT:** Further disassembly of throttle and brake controls will void warranty.

## INSPECTION

1. Check lever for wear and freedom of movement.
2. Check core wire for breaks and free movement in conduit.
3. Check trunion end of core wire for wear and make sure that trunion is free to rotate in retaining tabs thru normal travel of lever.
4. Inspect retaining ring on core wire for wear or breaks.
5. Inspect conduit for cracks or breaks.
6. Check snap fitting on conduit to make sure that retaining tangs are not cracked or broken.

7. Inspect brake return spring for tension and/or distortion.
8. Inspect carburetor for correct position of the anchor tab on throttle shaft return spring. (Figures 4A and 4B) If necessary, reposition spring anchor tab (by bending with a pliers) to conform with location and position SHOWN IN FIGURE 4B.

**IMPORTANT:** End of spring anchor tab must be bent in against throttle lever, as shown in circle view of Figure 4B.

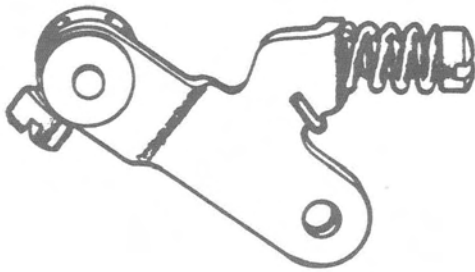


Figure 4A. Incorrect

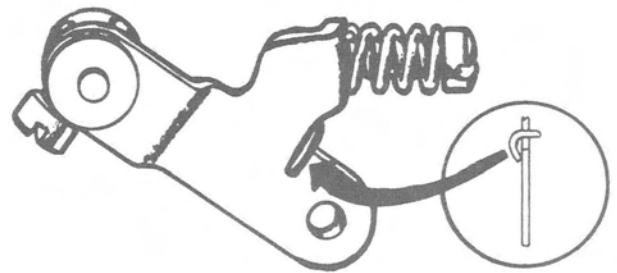


Figure 4B. Correct

Figure 4. Throttle Return Spring

## INSTALLATION

### STOP SWITCH

1. Insert cable thru dash opening and slide stop switch on handlebar position switch and tighten clamp on switch.
2. Connect switch lead to wiring harness.

### THROTTLE

1. Insert cable thru dash opening and slide throttle lever on handlebar. Position lever and tighten set screw in lever.

**IMPORTANT:** To aid installation of grip, soak grip in warm water for a few minutes. Use water only. DO NOT use any other lubricant, or grip may not adhere to handlebar.

2. Install handlebar grip.
3. Install throttle conduit in bracket and tighten nut onto throttle cable.

4. Install throttle wire into throttle linkage and tighten set screw on anchor. For adjustment, see "Throttle Adjustment", following.

### BRAKE

**NOTE:** Installation of brake lever on handlebar is identical to installation of throttle lever on handlebar.

1. Insert cable thru dash opening and slide brake lever on handlebar. Position lever and tighten set screw in lever.

**IMPORTANT:** To aid installation of grip, soak grip in warm water for a few minutes. Use water only. DO NOT use any other lubricant, or grip may not adhere to handlebar.

2. Install handlebar grip.
3. Tighten forward nut onto brake cable bracket.
4. Install brake cable core wire into clevis.
5. Install spring on brake assembly. For adjustment, see "Brake Adjustment", following.



## ADJUSTMENT

### THROTTLE CABLE (Figure 5)

*NOTE: The throttle control lever on the handlebar DOES NOT close completely at idle position. To prevent any possibility of stretching or tearing throttle core wire assembly, the throttle control is factory-adjusted in full throttle position, with the control lever acting as a throttle stop against the handlebar grip. If necessary, adjust as follows:*

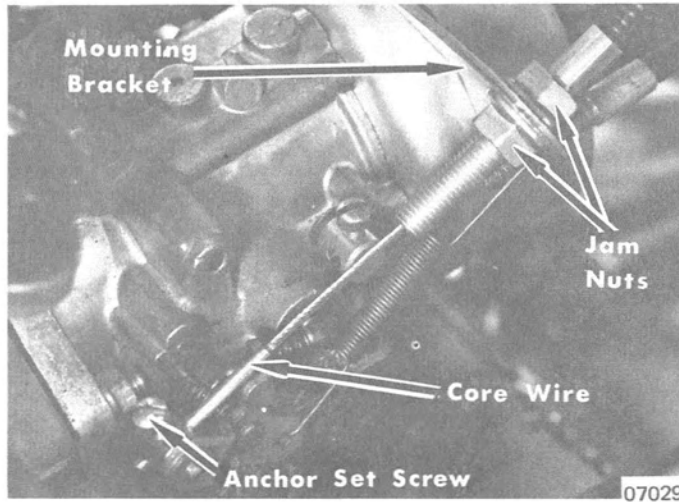


Figure 5. Throttle Cable Adjustment

1. Loosen set screw in core wire anchor on carburetor.
2. Loosen 2 jam nuts which secure throttle cable assembly in mounting bracket on front of carburetor.
  - a. Position top jam nut completely to top end of threaded section on cable.
  - b. Position bottom jam nut near bottom end of threaded section on cable.
3. With throttle shutter at idle position, slip core wire into anchor on carburetor with 1/16" to 1/8" of swaged end protruding thru anchor toward engine crankcase. Tighten anchor screw and nut.
4. While holding throttle control lever tight against handlebar grip (full throttle position) --
  - a. Turn bottom jam nut up on cable until tight against mounting bracket.
  - b. Tighten top jam nut against mounting bracket.

**WARNING:** Before starting engine actuate control several times to make sure that throttle shutter and cable operate freely without sticking or binding.

### BRAKE

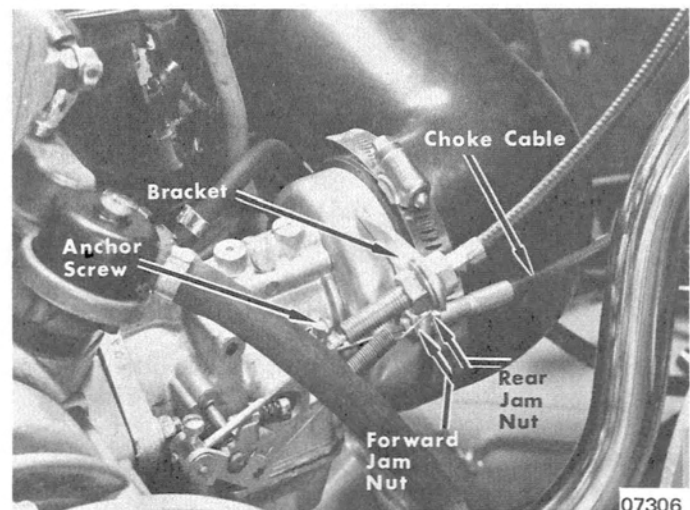
1. Remove cotter pin and turn nut clockwise (Figure 3) until brake discs make contact with, and cause drag on, driven sheave.
2. Back nut off 1/2-turn and re-insert cotter pin.

## CHOKE CONTROL - HURRICANE (644cc)

### REMOVAL

1. Raise top cowl.
2. Loosen choke cable anchor screw on choke lever. (Figure 1)
3. Remove 2 jam nuts from bracket, forward nut first. (Figure 1)
4. Remove nut from dash support, which attaches choke control to dash, and pull choke cable thru dash opening.

Figure 1. Choke Cable Linkage



### INSPECTION

1. Inspect conduit and core wire for breaks.
2. Make sure that control operates smoothly and core wire moves freely in conduit.

### INSTALLATION

1. Insert choke cable thru dash opening and attach choke control to dash by tightening nut to dash support.
2. Install 2 jam nuts on bracket, rear nut first. (Figure 1)
3. Insert choke cable into cable anchor and tighten choke cable anchor screw. (Figure 1)
4. Lower top cowl.



# CONTROLS - 440 MAX and 440 S/R MODELS

## GENERAL

This part covers removal, inspection, installation and adjustment of controls on 440 MAX and 440 S/R Models. Smooth, quick-responding control action is essential to operator safety and snowmobile performance. Brake control lever is installed on left side of handlebar for finger operation. Headlight dimmer switch is incorporated within the brake lever mount. Throttle control is installed on right side of handlebar for

thumb operation. Emergency stop switch is incorporated within the throttle lever mount.

*NOTE: Brake and throttle control levers may be positioned on handlebar to accommodate personal preference.*

Choke is actuated by pulling choke knob (located on dash).

## BRAKE and THROTTLE CONTROLS

### REMOVAL

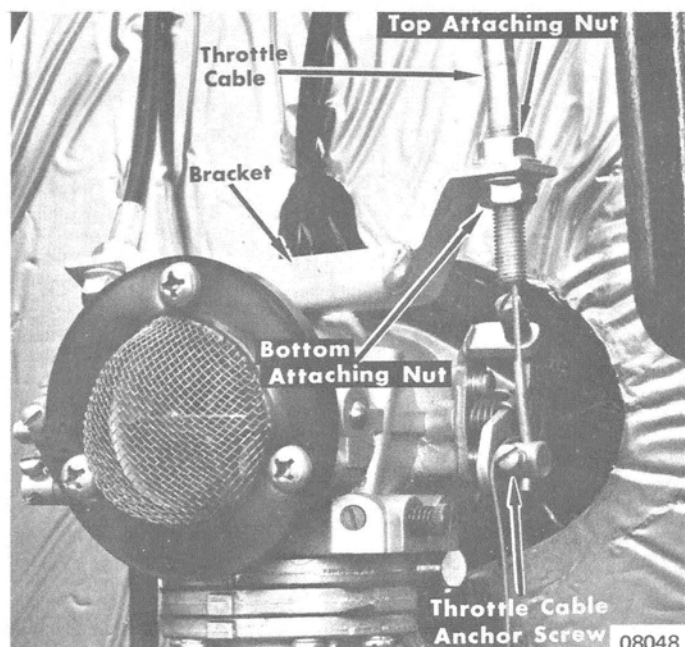


Figure 1. Throttle Cable to Carburetor (Chassis Serial No. 3447382 and Below)

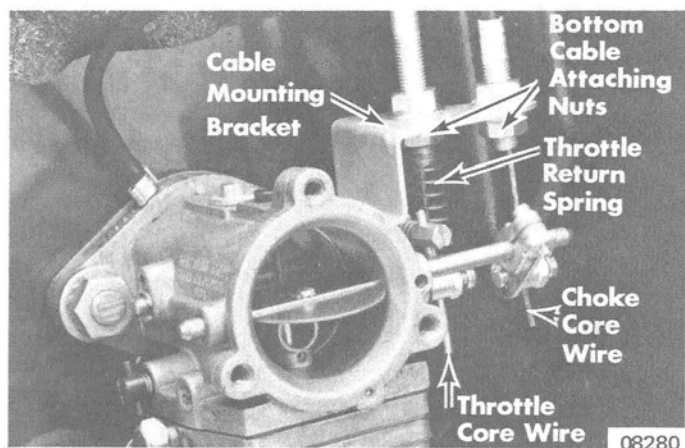


Figure 1A. Cables to Carburetor (Chassis Serial No. 3709838 and Above)

### THROTTLE and EMERGENCY STOP SWITCH

1. Raise top cowl, open dashboard cover and remove carburetor air intake (if so equipped).
2. Loosen throttle cable anchor screw on carburetor linkage. (Figure 1 or 1A)
3. Remove bottom throttle cable attaching nut from throttle cable. (Figure 1 or 1A)

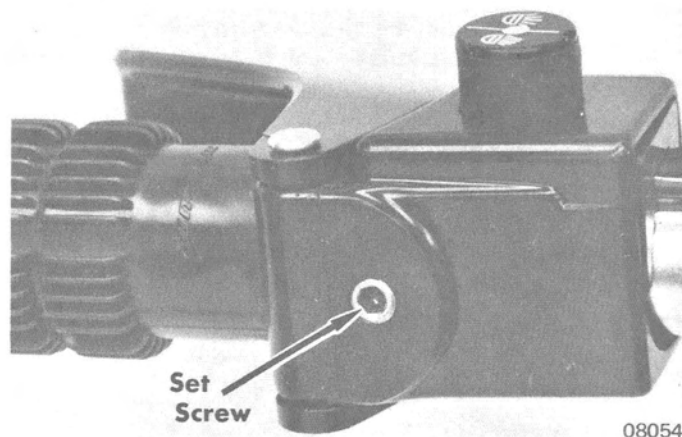


Figure 2. Control Lever Set Screw

4. Pull throttle cable out of throttle bracket and carburetor linkage.
5. Disconnect stop switch wires from engine wiring harness.
6. Insert a thin screwdriver between handlebar and handlebar grip to break glue bonding.

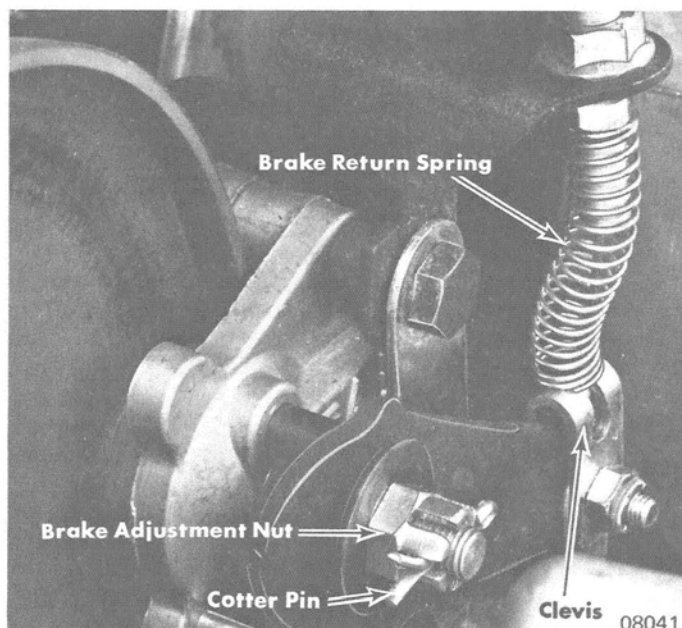


Figure 3. Brake Assembly

7. Loosen set screw in throttle lever mount. (Figure 2) Slide lever against handlebar grip and pull grip and lever off handlebar. Pull throttle cable and stop switch wires thru dash opening.

### BRAKE and HEADLIGHT DIMMER SWITCH

1. Raise top cowl, open dashboard cover and remove carburetor air intake (if so equipped).

2. Remove cotter pin from brake adjustment nut and loosen nut several turns.(Figure 3)
3. Remove brake cable core wire from clevis.(Figure 3)
4. Remove brake return spring from around brake core wire.
5. Remove bottom brake cable attaching nut from brake cable and pull cable out of bracket.

6. Disconnect dimmer switch wires from engine wiring harness.
7. Insert a thin screwdriver between handlebar and handlebar grip to break glue bonding.
8. Loosen set screw in brake lever mount. (Figure 2) Slide lever against handlebar grip and pull grip and lever off handlebar. Pull brake cable and dimmer switch wires thru dash opening.

## DISASSEMBLY

**NOTE:** Brake control disassembly is identical to throttle control disassembly.

1. Remove switch assembly from mount. Switch button must be in "up" position to remove from mount.
2. Remove core wire retainer from lever and lift core wire from lever. (Figure 4)
3. Remove snap ring (Figure 5) from control cable and remove cable assembly from mount.

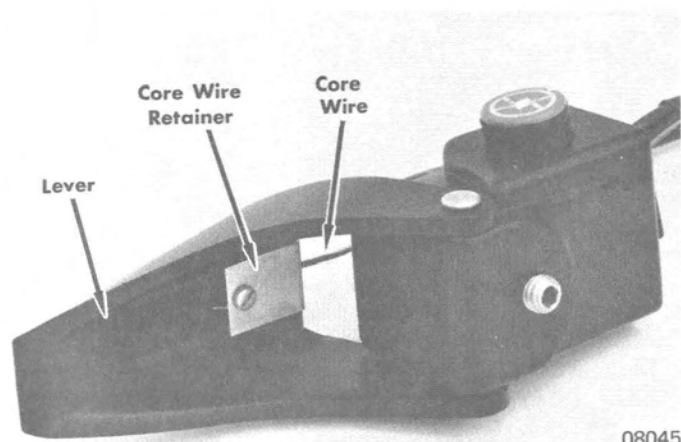
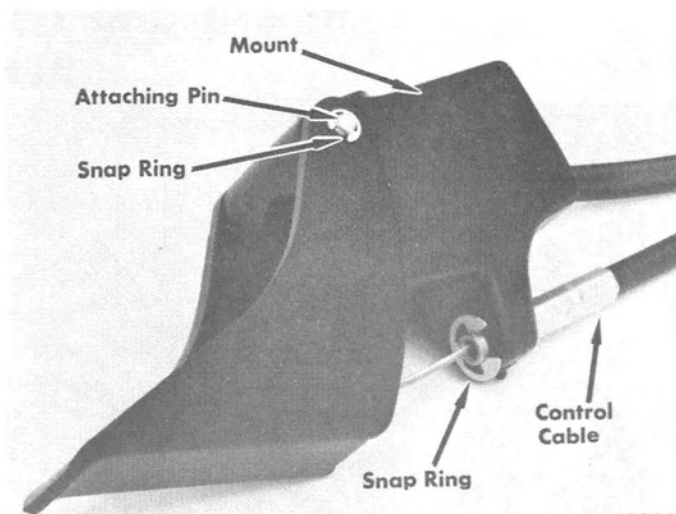


Figure 4. Control Lever

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08044

Figure 5. Control Lever

4. Remove snap ring from control lever to mount attaching pin. (Figure 5) Remove attaching pin and set screw from mount.

**IMPORTANT:** Further disassembly of throttle and brake cables will void warranty.

## INSPECTION

1. Refer to Section 3, Parts B and D, and perform electrical checks on switch assemblies.
2. Inspect lever and mount for cracks, chips or breaks.
3. Check core wire for breaks and free movement in housing.
4. Check both ends of core wire for wear and breaks. Make sure that trunion end is free to rotate in control lever thru normal travel of lever.

5. Inspect snap rings and set screw for distortion, breaks and damaged threads.
6. Inspect cable housing and ends for cracks, breaks and damaged threads.
7. Check brake return spring for tension and distortion.
8. Replace parts as necessary.

## REASSEMBLY

**NOTE:** Brake control reassembly is identical to throttle control reassembly.

1. Install set screw several turns into mount.
2. Attach control lever to mount with attaching pin and secure with snap ring. (Figure 5)

**IMPORTANT:** Attaching pin **MUST** be installed in mount with snap ring "down" when mounted on handlebar.

3. Install cable in mount and secure with snap ring. (Figure 5)
4. Position core wire in control lever and secure with retainer and screw. (Figure 4)

**CAUTION:** Overtightening of retaining screw may crack control lever.

5. Check operation of control lever and cable. Control lever must move freely. Core wire and/or control lever **MUST NOT** bind.
6. Install switch in mount. Switch button must be in "up" position to install in mount. Be sure that stop switch is installed in throttle control and dimmer switch in brake control.

# INSTALLATION

## THROTTLE and EMERGENCY STOP SWITCH

1. Insert throttle cable and stop switch wires thru dash opening.
2. Slide throttle control lever and handlebar grip on handlebar. Glue handlebar grip to handlebar with Blanket Adhesive (C-92-25234-1).

**IMPORTANT:** To aid installation of grip, soak grip in warm water for a few minutes. Use water only. DO NOT use any other lubricant, or grip may not adhere to handlebar.

3. Position throttle control lever as desired and TORQUE set screw (Figure 2) in mount to 18-20 in. lbs. (21 to 23kg-cm) MAXIMUM.

**CAUTION:** Overtightening of set screw may crack mount.

4. Connect stop switch wires to engine wiring harness.
5. Install throttle cable thru mount bracket, attaching nut, throttle return spring (Figure 1A) and throttle cable anchor. Tighten attaching nut. (Figure 1 or 1A)

**IMPORTANT:** Throttle cable MUST NOT make any sharp bends. Position cable away from moving parts.

6. Tighten throttle cable anchor screw on carburetor linkage. For adjustment, refer to "Throttle Adjustment", following.
7. Install carburetor air intake (if so equipped) and close top cowl and dashboard cover.

## BRAKE and HEADLIGHT DIMMER SWITCH

1. Insert brake cable and dimmer switch wires thru dash opening.

2. Slide brake control lever and handlebar grip on handlebar. Glue handlebar grip to handlebar with Blanket Adhesive (C-92-25234-1).

**IMPORTANT:** To aid installation of grip, soak grip in warm water for a few minutes. Use water only. DO NOT use any other lubricant, or grip may not adhere to handlebar.

3. Position brake control lever as desired and TORQUE set screw (Figure 2) in mount to 18-20 in. lbs. (21 to 23kg-cm) MAXIMUM.

**CAUTION:** Overtightening of set screw may crack mount.

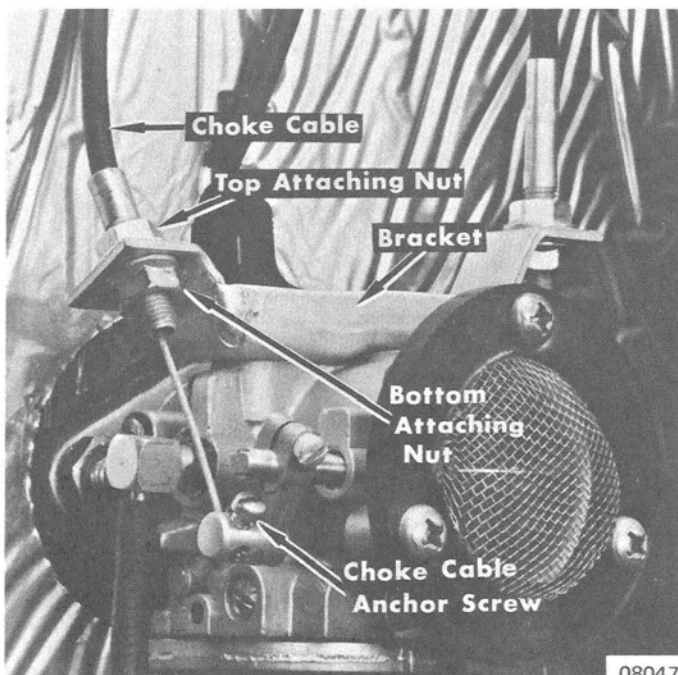
4. Connect dimmer switch wires to engine wiring harness.
5. Install brake cable thru brake mount bracket and secure with attaching nut. (Figure 3)

**IMPORTANT:** Brake cable MUST NOT make any sharp bends. Position cable away from moving parts.

6. Place brake return spring around brake cable core wire and install brake cable core wire into clevis. (Figure 3)
7. Refer to "Brake Mount and Brake" adjustment, following. Adjust brake tension and secure brake adjustment nut with cotter pin.
8. Install carburetor air intake (if so equipped) and close top cowl and dashboard cover.

# CHOKE CONTROL

## REMOVAL



08047

1. Raise top cowl, open dashboard cover and remove carburetor air intake (if so equipped).
2. Remove dash attaching screws.
3. Loosen choke cable anchor screw on carburetor linkage. (Figure 6 or 1A)
4. Remove bottom choke cable attaching nut from choke cable. (Figure 6 or 1A)
5. Pull choke cable out of choke bracket and carburetor linkage.
6. Lift up on front of dash assembly and remove nut and lockwasher which attach choke control to dash.
7. Pull choke cable thru dash opening.

Figure 6. Choke Cable

## INSPECTION

1. Inspect cable housing and ends for cracks, breaks and damaged threads.
2. Check core wire for breaks and free movement in housing.

## INSTALLATION

1. Insert choke cable thru dash opening. Secure to dash assembly with lockwasher and nut.
2. Install choke cable thru carburetor mount bracket and secure with attaching nut.

**IMPORTANT:** Choke cable **MUST NOT** make any sharp bends. Position cable away from moving parts.

3. Install core wire into choke anchor on carburetor linkage. Tighten choke cable anchor screw. For adjustment, refer to "Choke Adjustment", following.
4. Secure dash assembly with attaching screws.
5. Install carburetor air intake (if so equipped) and close top cowl and dashboard cover.

## ADJUSTMENT

### THROTTLE (Figure 1A or 7)

*NOTE: Throttle control lever on handlebar DOES NOT close completely at idle position. To prevent possibility of stretching or tearing throttle core wire assembly, throttle control is factory-adjusted in full throttle position, with handlebar grip acting as a throttle stop for control lever. If necessary, adjust as follows:*

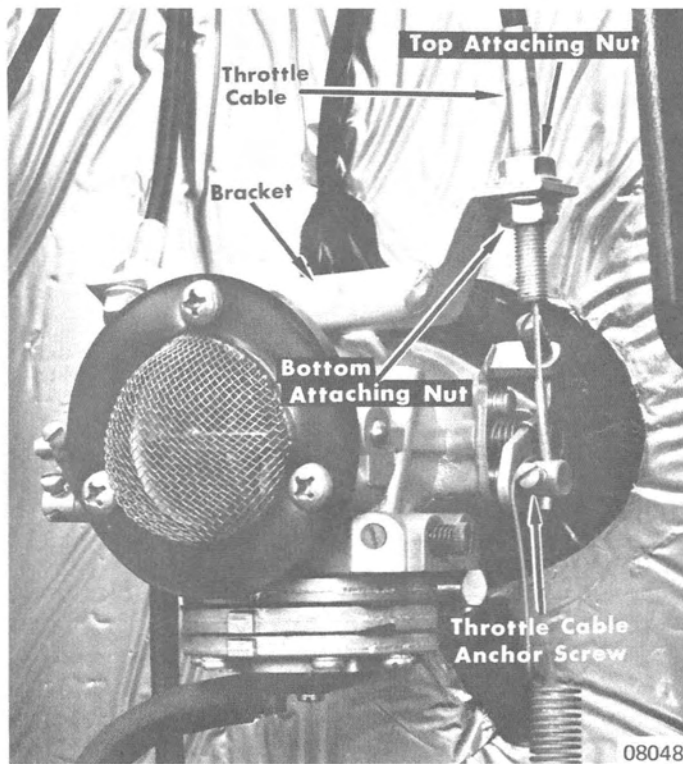


Figure 7. Throttle Control Cable

1. Loosen throttle cable anchor screw on carburetor linkage.
2. Loosen 2 attaching nuts which secure throttle cable assembly in mounting bracket on carburetor.
  - a. Position top cable attaching nut to top end of threaded section on cable.
  - b. Position bottom cable attaching nut near bottom end of threaded section on cable.
3. With throttle shutter at idle position (against idle speed screw), slip core wire into anchor on carburetor with

1/16" to 1/8" (1.6 to 3.2mm) of swaged end protruding thru throttle cable anchor. Tighten anchor screw.

4. While holding throttle lever tight against handlebar grip (full throttle position), adjust throttle cable attaching nuts.
  - a. Turn top cable attaching nut down on cable until tight against mounting bracket and slack is removed from cable.

**IMPORTANT:** When properly adjusted, throttle shutter **MUST** open to full throttle position and return to idle position. Handlebar grip (not carburetor linkage) **MUST** act as a throttle stop.

- b. Tighten bottom cable attaching nut against cable mounting bracket.

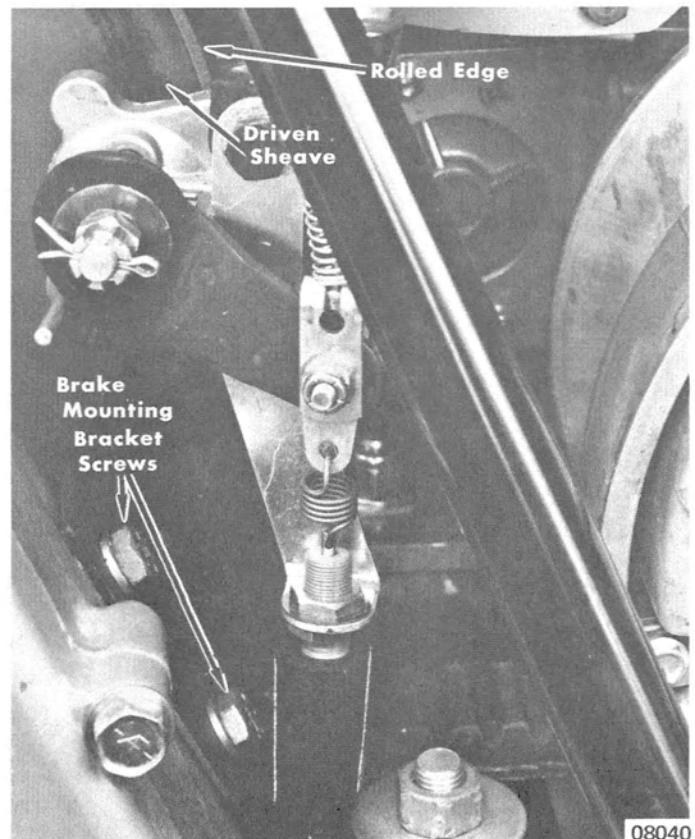


Figure 8. Brake Mount



**WARNING:** Before starting engine, actuate throttle control several times to make sure that throttle shutter and cable operate freely without sticking or binding. When throttle lever is released, throttle shutter **MUST** return to idle position.

## BRAKE MOUNT and BRAKE

**NOTE:** Brake mounting bracket **MUST** be adjusted each time drive chain tension is adjusted.

1. Loosen brake mounting bracket screws. (Figure 8)
2. Adjust mounting bracket so that brake disc contacts flat surface of driven sheave and not rolled edge. (Figure 8)

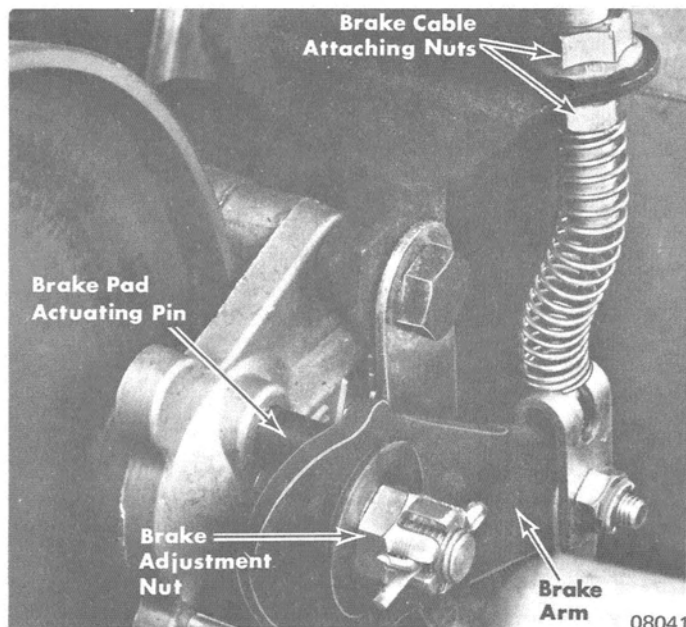


Figure 9. Brake Assembly

3. Torque brake mounting bracket screws to specifications. (Refer to "Specifications" Section 8.)
4. Check alignment of brake pad actuating pins to brake arm. (Figure 9) Without actuating brake lever, pins must be in center of brake arm depression. Adjust brake cable attaching nuts (Figure 9) as necessary, to align actuating pins to brake arm, and remove "slack" from cable.
5. Remove cotter pin and turn brake adjustment nut (Figure 9) clockwise until brake discs make contact with and cause drag on driven sheave.
6. Back nut off  $\frac{1}{2}$ -turn or far enough to allow  $\frac{1}{4}$ " (6.4mm) "free travel" of brake lever before brake engages. Secure brake adjustment nut with cotter pin.
7. Refer to "Stoplight Switch", following, and adjust stoplight switch.

## STOPLIGHT SWITCH

1. Loosen stoplight switch adjusting nuts. (Figure 10)
2. Adjust switch up or down with adjusting nuts to leave slight tension on spring. (Figure 10)
3. Tighten adjusting nuts and check stoplight operation. Re-adjust as necessary.

**NOTE:** On 440 models with Chassis Serial No. 3709838 and above, Loctite has been applied to adjusting nuts of stoplight switch. Adjust brake cable attaching nuts (Figure 9) to have a slight tension on stoplight switch spring. (Figure 10)

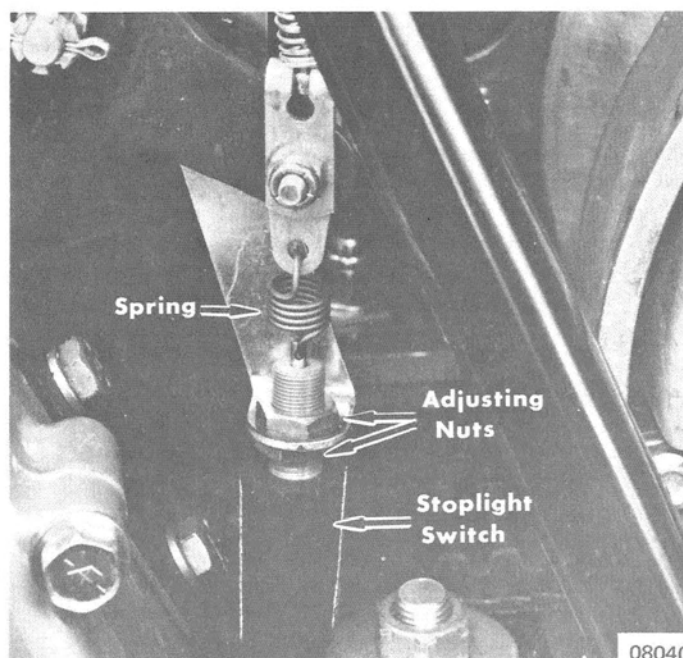


Figure 10. Stoplight Switch

## CHOKE (Figure 1A or 11)

1. Loosen choke cable anchor screw on carburetor linkage.
2. Loosen 2-attaching nuts which secure choke cable assembly in mounting bracket on carburetor.
  - a. Position top cable attaching nut completely to top end of threaded section on cable.
  - b. Position bottom cable attaching nut near bottom end of threaded section on cable.
3. With choke shutter in "off" position (choke knob pushed in - choke shutter open), slip core wire into anchor on carburetor with  $\frac{1}{16}$ " to  $\frac{1}{8}$ " (1.6 to 3.2mm) of core wire protruding thru throttle cable anchor. Tighten anchor screws.
4. Adjust choke cable attaching nuts.
  - a. Turn top cable attaching nut against cable mounting bracket until choke shutter starts to close.
  - b. Tighten bottom cable attaching nut against cable mounting bracket.
5. Check operation of choke mechanism. When choke knob is pushed "in", choke shutter must be fully open. Choke shutter must close as choke knob is pulled. "Free travel" should not exist in choke control.

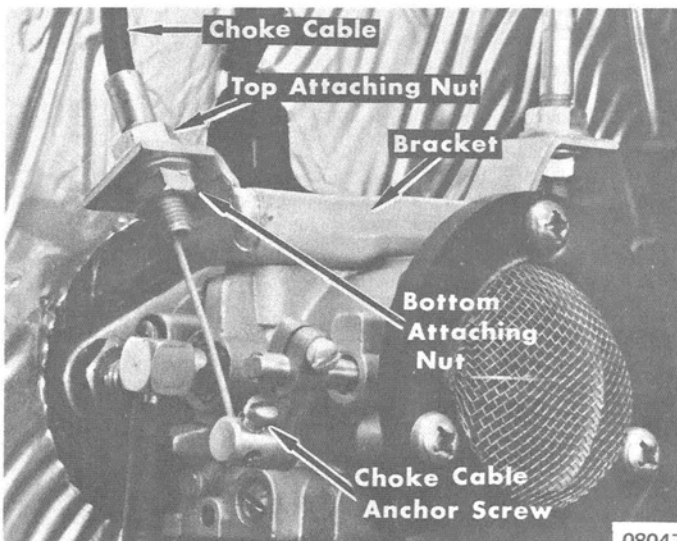


Figure 11. Choke Cable

# CONTROLS - MARK I (644cc) and MARK II (644cc) MODELS

## GENERAL

This part covers removal, inspection, installation and adjustment of controls on Mark I (644cc) and Mark II (644cc) Models. Smooth, quick-responding control action is essential to operator safety and snowmobile performance. Brake control lever is installed on left side of handlebar for finger operation. Headlight dimmer switch is incorporated within the

brake lever mount. Throttle control lever is installed on right side of handlebar for thumb operation. Emergency stop switch is incorporated within the throttle lever mount.

*NOTE: Brake and throttle control levers may be positioned on handlebar to accommodate personal preference. Choke is actuated by pulling choke knob (located on dash).*

## BRAKE and THROTTLE CONTROLS

### REMOVAL

#### THROTTLE and EMERGENCY STOP SWITCH

1. Raise top cowl

*NOTE: On Mark II Model (Chassis Serial No. 3591478 and below), it is not necessary to disconnect throttle cable from carburetor when removing emergency stop switch.*

2. Loosen throttle cable anchor screw(s) on carburetor linkage. (Figure 1, 2 or 2A)

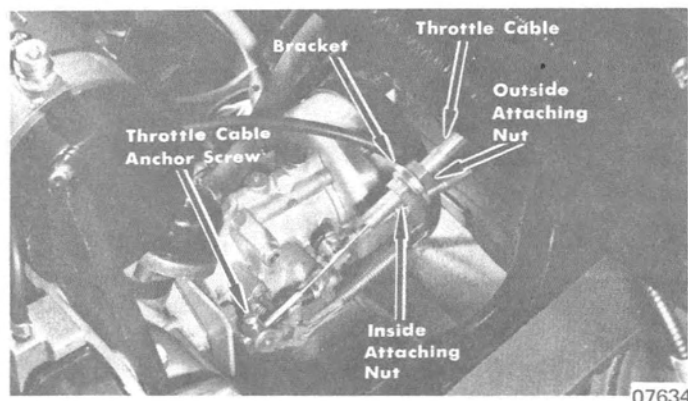


Figure 1. Carburetor - Mark I

*NOTE: On Mark II Model, link rod (Figure 2) need not be removed to remove throttle cable.*

3. Remove "carburetor side" (inside) attaching nut(s) from throttle cable. (Figure 1, 2 or 2A)
4. Pull throttle cable(s) out of throttle bracket(s) and carburetor linkage.
5. Disconnect stop switch wires from engine wiring harness.
6. Insert a thin screwdriver between handlebar and handlebar grip to break glue bonding.

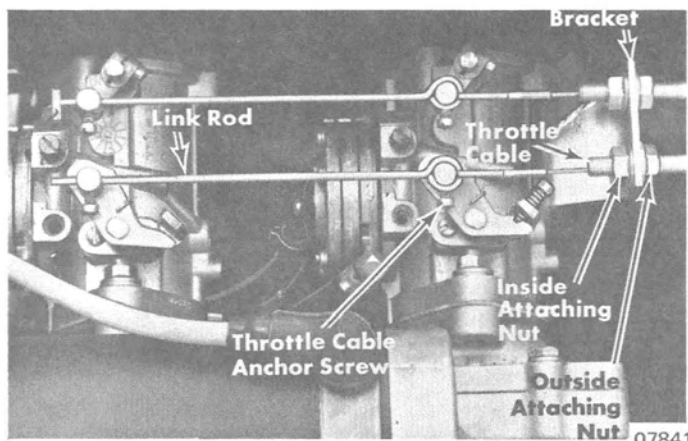


Figure 2. Carburetor - Mark II (Chassis Serial No. 3591478 and Below)

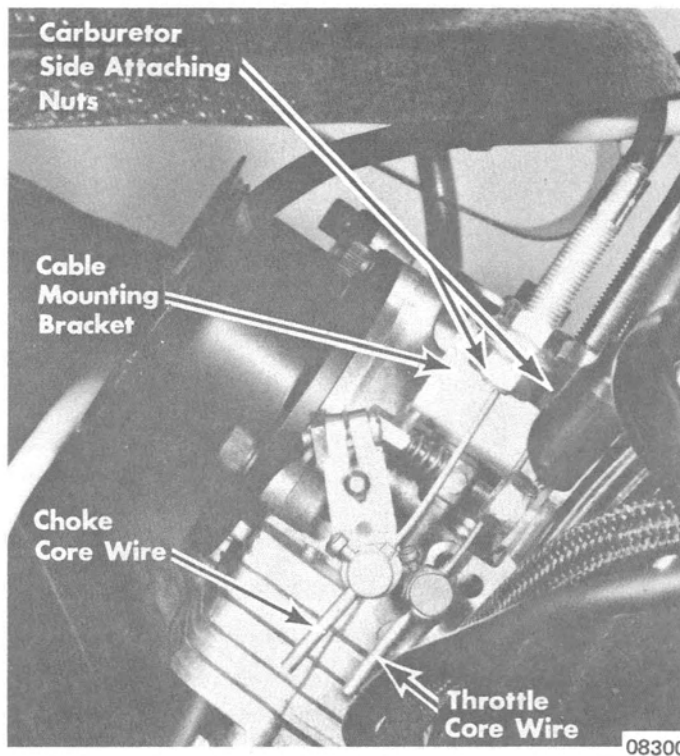


Figure 2A. Carburetor - Mark II (Chassis Serial No. 3787640 and Above)

7. Loosen set screw in throttle lever mount. (Figure 3) Slide lever against handlebar grip and pull grip and lever off handlebar. Pull throttle cable and stop switch wires thru dash opening.

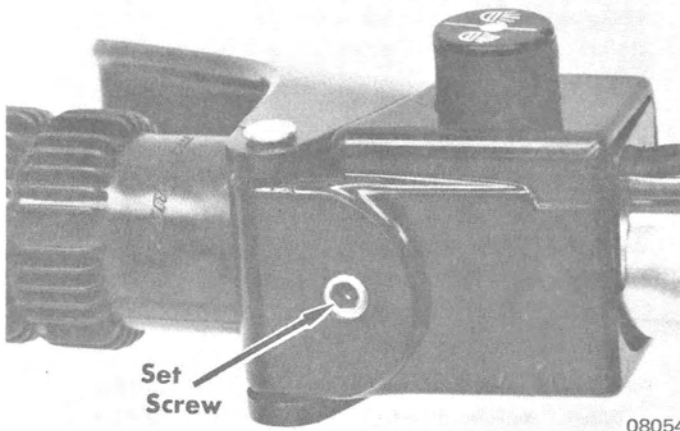
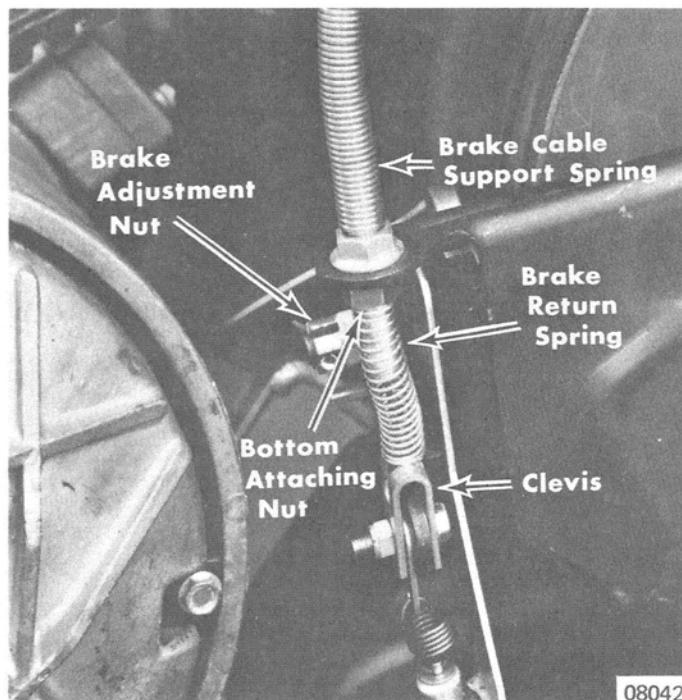


Figure 3. Control Lever Set Screw





## BRAKE and HEADLIGHT DIMMER SWITCH

1. Raise top cowl.
2. Remove cotter pin from brake adjustment nut and loosen nut several turns. (Figure 4)
3. Remove brake cable core wire from clevis. (Figure 4)
4. Remove brake return spring from around brake core wire.
5. Remove bottom attaching nut from brake cable and pull cable out of bracket.
6. Disconnect dimmer switch wires from engine wiring harness.
7. Insert a thin screwdriver between handlebar and handlebar grip to break glue bonding.
8. Loosen set screw in brake lever mount. (Figure 3) Slide lever against handlebar grip and pull grip and lever off handlebar. Pull brake cable and dimmer switch wires thru dash opening.

Figure 4. Brake Assembly

## DISASSEMBLY

*NOTE: Brake control disassembly is identical to throttle control disassembly.*

1. Remove switch assembly from mount. Switch button must be in "up" position to remove from mount.
2. Remove core wire retainer from lever and lift core wire from lever. (Figure 5)
3. Remove snap ring from control cable (Figure 6) and remove cable assembly from mount.

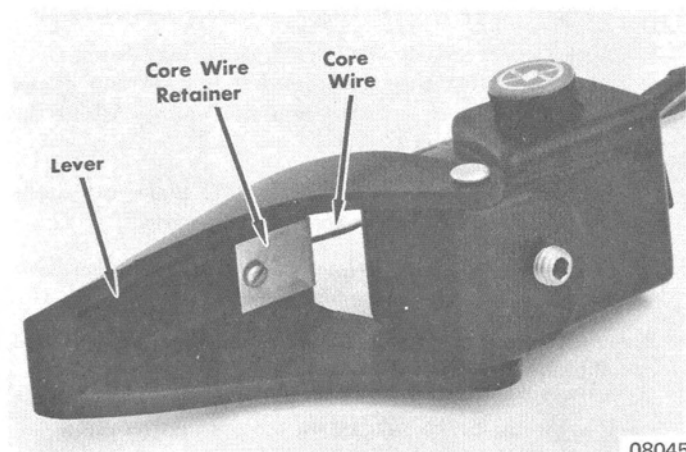


Figure 5. Control Lever

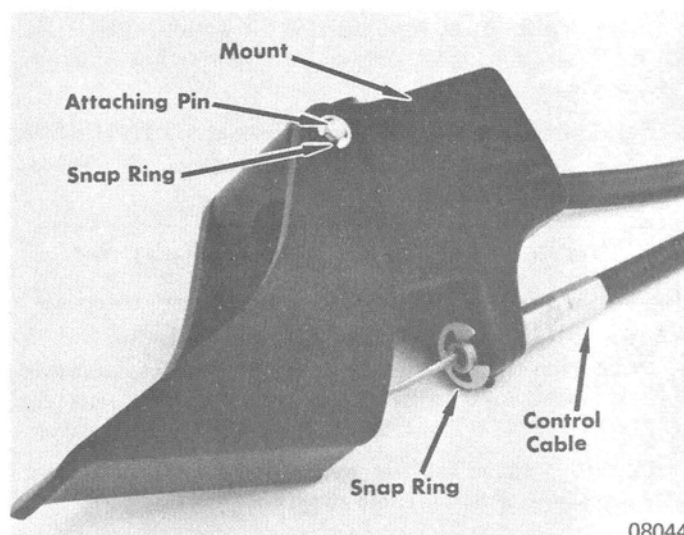


Figure 6. Control Lever

4. Remove snap ring from control lever to mount attaching pin. Remove attaching pin and set screw from mount.

**IMPORTANT:** Further disassembly of throttle and brake cables will void warranty.

## INSPECTION

1. Refer to Section 3, Parts B and D, and perform electrical checks on switch assemblies.
2. Inspect lever and mount for cracks, chips or breaks.
3. Check core wire for breaks and free movement in housing.
4. Check both ends of core wire for wear and breaks. Make sure that trunion end is free to rotate in control lever thru normal travel of lever.
5. Inspect snap rings and set screw for distortion, breaks and damaged threads.
6. Inspect cable housing and ends for cracks, breaks and damaged threads.
7. Check brake return spring for tension and distortion.
8. Replace parts as necessary.

## REASSEMBLY

*NOTE: Brake control reassembly is identical to throttle control reassembly.*

1. Install set screw several turns into mount.
2. Attach control lever to mount with attaching pin and secure with snap ring. (Figure 6)

**IMPORTANT:** Attaching pin **MUST** be installed in mount with snap ring "down" when mounted on handlebar.

3. Install cable in mount and secure with snap ring. (Figure 6)
4. Position core wire in control lever and secure with retainer and screw. (Figure 5)

**CAUTION:** Overtightening of retaining screw may crack control lever.

5. Check operation of control lever and cable. Control lever must move freely. Core wire and/or control lever **MUST NOT** bind.
6. Install switch in mount. Switch button must be in "up" position to install in mount. Be sure that stop switch is installed in throttle control and dimmer switch in brake control.

## INSTALLATION

### THROTTLE and EMERGENCY STOP SWITCH

1. Insert throttle cable and stop switch wires thru dash opening.
2. Slide throttle control lever and handlebar grip on handlebar.

**IMPORTANT:** To aid installation of grip, soak grip in warm water for a few minutes. Use water only. **DO NOT** use any other lubricant, or grip may not adhere to handlebar.

3. Position throttle control lever as desired and **TORQUE** set screw in mount (Figure 3) to 18-20 in. lbs. (21 to 23kg-cm) **MAXIMUM**.

**CAUTION:** Overtightening of set screw may crack mount.

4. Connect stop switch wires to engine wiring harness.
5. Install throttle cable(s) thru mount bracket, attaching nut(s) and throttle cable anchor(s). Tighten attaching nut(s). (Figure 1, 2 or 2A)

**IMPORTANT:** Throttle cable **MUST NOT** make any sharp bends. Position cable away from moving parts.

*NOTE: On Mark II Models (Chassis Serial No. 3591478 and below), install control cables between underside of dash and drive belt guard.*

6. Tighten throttle cable anchor screw(s) on carburetor linkage. For adjustment, refer to "Throttle Adjustment", following.
7. Close top cowl.

### BRAKE and HEADLIGHT DIMMER SWITCH

1. Insert brake cable and dimmer switch wires thru dash opening.
2. Slide brake control lever and handlebar grip on handlebar.

**IMPORTANT:** To aid installation of grip, soak grip in warm water for a few minutes. Use water only. **DO NOT** use any other lubricant, or grip may not adhere to handlebar.

3. Position brake control lever as desired and **TORQUE** set screw in mount (Figure 3) to 18-20 in. lbs. (21 to 23kg-cm) **MAXIMUM**.

**CAUTION:** Overtightening of set screw may crack mount.

4. Connect dimmer switch wires to engine wiring harness.
5. Install brake cable thru brake mount bracket and secure with attaching nut. Cable support spring **MUST** be positioned as shown in Figure 4.

**IMPORTANT:** Brake cable **MUST NOT** make any sharp bends. Position cable away from moving parts.

*NOTE: On Mark II Model, install control cables between underside of dash and drive belt guard.*

6. Place brake return spring around brake cable core wire and install brake cable core wire into clevis. (Figure 4)
7. Refer to "Brake Adjustment", following, and adjust brake tension. Secure brake adjustment nut with cotter pin.
8. Close top cowl.

# CHOKE CONTROL REMOVAL

1. Raise top cowl.
2. Loosen choke cable anchor screw on carburetor linkage. (Figure 2A, 7 or 8)

**NOTE:** On Mark II Model, link rod (Figure 8) need not be removed to remove choke cable.

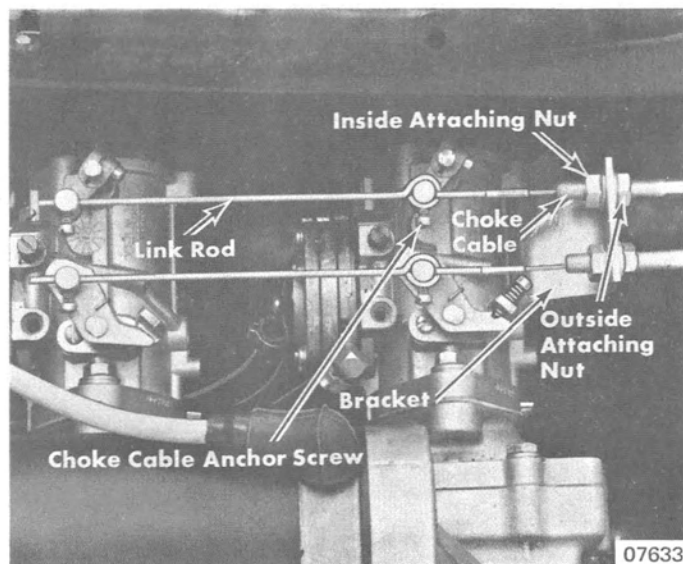


Figure 7. Carburetor - Mark I

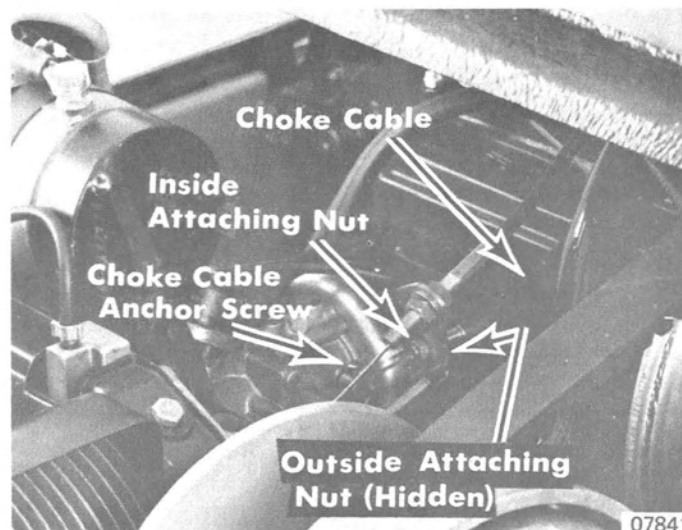


Figure 8. Carburetor - Mark II (Chassis Serial No. 3591478 and Below)

3. Remove "carburetor side" (inside) attaching nut from choke cable. (Figure 2A, 7 or 8)
4. Pull choke cable out of choke bracket and carburetor linkage.
5. Remove nut and lockwasher from underside of dash support, which attach choke control to dash, and pull choke thru dash opening.

## INSPECTION

1. Inspect cable housing and ends for cracks, breaks and damaged threads.
2. Check core wire for breaks and free movement in housing.

## INSTALLATION

1. Insert choke cable thru dash opening. Secure to dash assembly with lockwasher and nut.
2. Install choke cable thru carburetor mount bracket and attaching nut and into choke cable anchor. Tighten attaching nut. (Figure 2A, 7 or 8)

**IMPORTANT:** Choke cable **MUST NOT** make any sharp bends. Position cable away from moving parts.

**NOTE:** On Mark II Model (Chassis Serial No. 3591478 and below), install choke cable between underside of dash and drive belt guard.

3. Tighten choke cable anchor screw on carburetor linkage. For adjustment, refer to "Choke Adjustment", following.
4. Close top cowl.

## ADJUSTMENT

### THROTTLE (Figure 1, 2 or 2A)

**NOTE:** Throttle control lever on handlebar **DOES NOT** close completely at idle position. To prevent possibility of stretching or tearing throttle core wire assembly, throttle control is factory-adjusted in full throttle position, with handlebar grip acting as a throttle stop for control lever. If necessary, adjust as follows:

1. Loosen throttle cable anchor screw(s) on carburetor linkage.
2. Loosen attaching nuts which secure throttle cable assembly in mounting bracket on carburetor.

- a. Position outside (away from carburetor) cable attaching nut(s) completely to top end of threaded section on cable.
  - b. Position inside (carburetor side) cable attaching nut(s) near bottom end of threaded section on cable.
3. With throttle shutter at idle position (against idle speed screw), slip core wire into anchor on carburetor with 1/16" to 1/8" (1.6 to 3.2mm) of swaged end protruding thru throttle cable anchor. Tighten anchor screw.
  4. While holding throttle control lever tight, against handlebar grip (full throttle position), adjust throttle cable attaching nuts.

- a. Turn outside (away from carburetor) cable attaching nut(s) down on cable until tight against mounting bracket, and slack is removed from cable.

**IMPORTANT:** When properly adjusted, throttle shutter **MUST** open to full throttle position and return to idle position.

**NOTE:** On Mark II Model, handlebar grip (not carburetor linkage) **MUST** act as throttle stop.

- b. Tighten inside (carburetor side) cable attaching nuts against cable mounting bracket.

**WARNING:** Before starting engine, actuate throttle control several times to make sure that throttle shutter and cable operate freely without sticking or binding. When throttle lever is released, throttle shutter **MUST** return to idle position.

5. Refer to "Mark II Carburetor Synchronization", Section 4, Part A, and synchronize carburetors on Mark II Model.

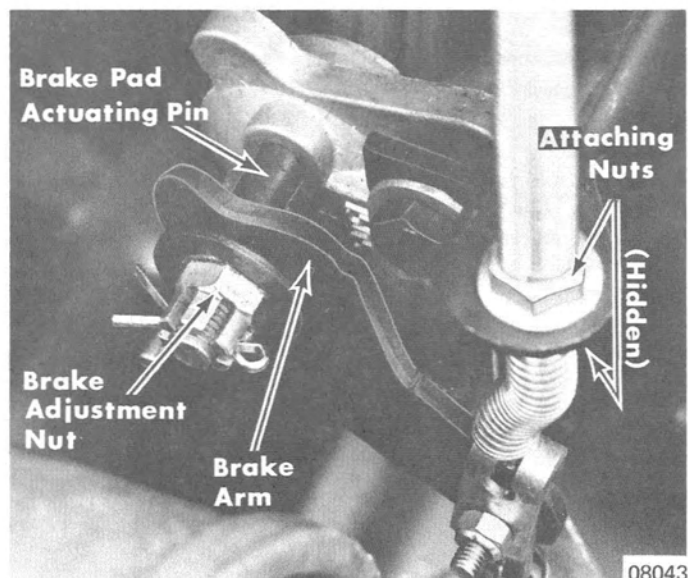


Figure 9. Brake Assembly

#### BRAKE

1. Check alignment of brake pad actuating pins to brake arm. (Figure 9) Without actuating brake lever, pins must be in center of brake arm depression. Adjust brake cable attaching nuts (Figure 9) as necessary to align actuating pins to brake arm.
2. Remove cotter pin and turn brake adjustment nut (Figure 9) clockwise until brake discs make contact with, and cause drag on, driven sheave.
3. Back nut off 1/2-turn, or far enough to allow 1/4" (6.4mm) "free travel" of brake lever before brake engages. Secure brake adjustment nut with cotter pin.
4. Refer to "Stoplight Switch", following, and adjust stoplight switch.

#### STOPLIGHT SWITCH

1. Loosen stoplight switch adjusting nuts. (Figure 10)
2. Adjust switch up or down with adjusting nuts to leave slight tension on spring. (Figure 10)
3. Tighten adjusting nuts and check stoplight operation. Re-adjust as necessary.

**NOTE:** On Mark II models with Chassis Serial No. 3787640 and above, Loctite has been applied to adjusting nuts of stoplight switch. Adjust brake cable attaching nuts (Figure 9) to have a slight tension on stoplight switch spring. (Figure 10)

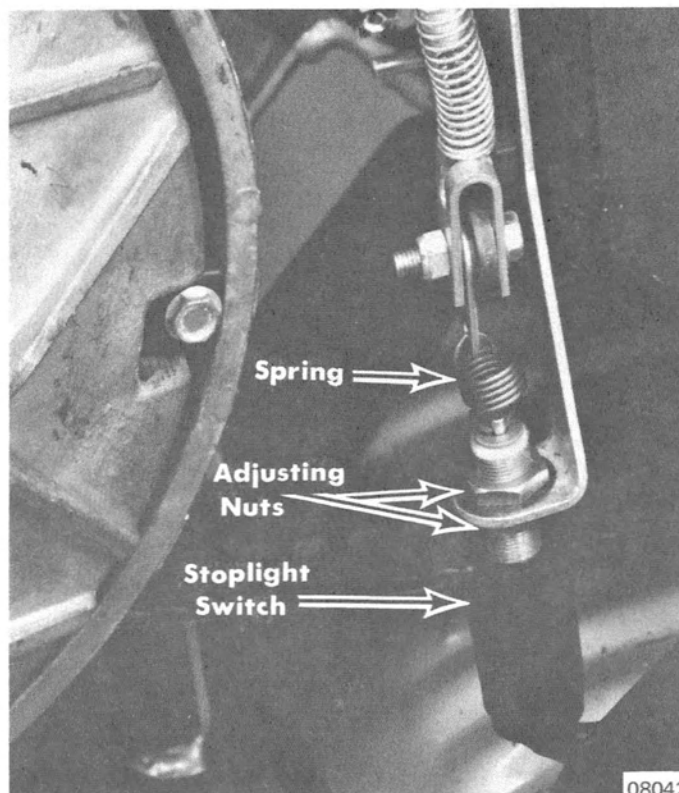


Figure 10. Stoplight Switch

#### CHOKE (Figure 2A, 7 or 8)

1. Loosen choke cable anchor screw on carburetor linkage.
2. Loosen 2 attaching nuts which secure choke cable assembly to mounting bracket on carburetor.
  - a. Position outside (away from carburetor) cable attaching nut completely to top end of threaded section on cable.
  - b. Position inside (carburetor side) cable attaching nut near bottom end of threaded section on cable.
3. With choke shutter in "off" position (choke knob pushed in - choke shutter open), slip core wire into anchor on carburetor with 1/16" to 1/8" (1.6 to 3.2mm) of core wire protruding thru throttle cable anchor. Tighten anchor screw.
4. Adjust choke cable attaching nuts.
  - a. Turn outside (away from carburetor) cable attaching nut against cable mounting bracket until choke shutter starts to close.
  - b. Tighten inside (carburetor side) cable attaching nut against cable mounting bracket.
5. Check operation of choke mechanism. When choke knob is pushed "in", choke shutter must be fully open. Choke shutter must close as choke knob is pulled. "Free travel" should not exist in choke control.
6. Refer to "Mark II Carburetor Synchronization", Section 4, Part A, and synchronize carburetors on Mark II Model.



# CONTROLS - SNO-TWISTER MODEL

## GENERAL

Brake control is installed on left side of handlebar for finger operation. Headlight dimmer switch and stoplight switch are incorporated within the brake lever mount. Throttle control is installed on right side of handlebar for thumb operation.

Emergency stop switch and tether stop switch are incorporated within the throttle lever mount.

*NOTE: Brake and throttle controls may be positioned on handlebar to accommodate personal preference.*

## REMOVAL and DISASSEMBLY

### THROTTLE CONTROL, EMERGENCY STOP SWITCH and TETHER STOP SWITCH

1. Remove snap ring from throttle cable and remove cable assembly from control lever mount.
2. Remove throttle cable core wire from throttle lever.
3. If desired, remove throttle cable from each carburetor as follows:
  - a. Unscrew throttle body cover and lift throttle body cover, spring, jet needle and throttle valve from carburetor as an assembly. (Figure 1)

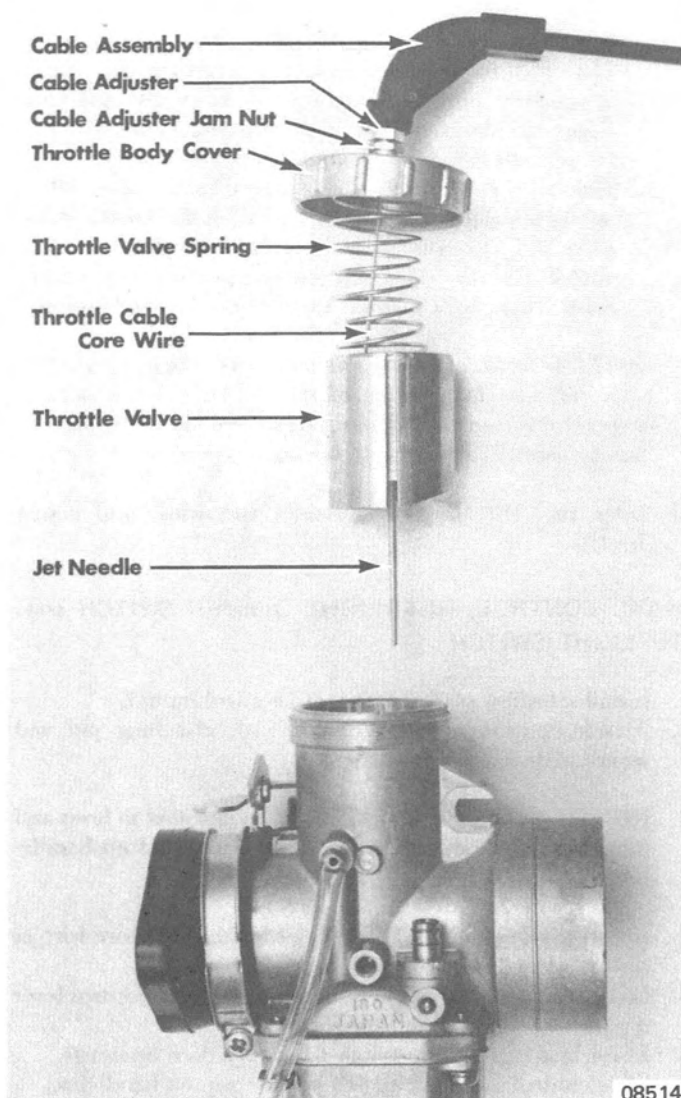


Figure 1. Throttle Cable Removal/Installation

- b. Compress throttle valve spring into cover assembly and hold.
- c. Turn throttle valve upside down, allowing throttle cable plate and jet needle to drop out of throttle valve.
- d. Remove throttle cable core wire from throttle valve by pushing core wire toward throttle valve, sliding it over in slot and pulling it out of throttle valve.
- e. Remove throttle valve spring from around core wire.
- f. Loosen cable adjuster jam nut, remove cable adjuster from cover and pull cable assembly from cover.
4. Disconnect emergency stop switch wires and tether stop switch wires from terminals of terminal block.
5. Loosen set screw in throttle lever mount. Slide control mount against handlebar grip and pull grip and control mount assembly off handlebar. Pull switch wires thru dash opening.
6. Remove snap ring and washer from control lever to control mount attaching pin. Remove attaching pin and set screw from mount.

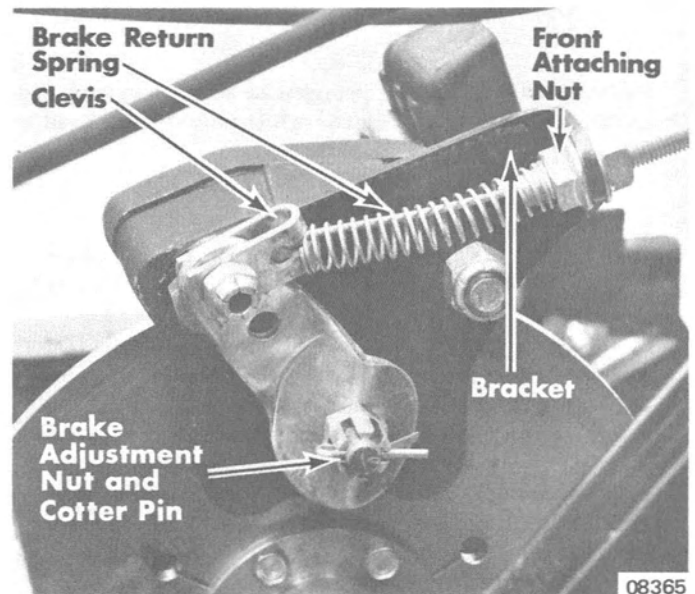


Figure 2. Brake Assembly

### BRAKE CONTROL, HEADLIGHT DIMMER SWITCH and STOPLIGHT SWITCH

1. Remove cotter pin from brake adjustment nut and loosen nut several turns. (Figure 2)
2. Remove brake cable core wire from clevis. (Figure 2)
3. Remove brake return spring from around brake cable core wire.
4. Remove front attaching nut from brake cable and pull cable out of bracket.

5. Disconnect dimmer switch wires and stoplight switch wires from terminals of terminal block and chassis harness.
6. Loosen set screw in brake lever mount. Slide control mount against handlebar grip and pull grip and control mount assembly off handlebar. Pull brake cable and switch wires thru dash opening.

7. Remove snap ring from brake cable and remove cable assembly from control lever mount.
8. Remove brake cable core wire from brake lever.
9. Remove snap ring and washer from control lever to control mount attaching pin. Remove attaching pin and set screw from mount.

## INSPECTION

1. Refer to Section 3, Parts B and D, and perform electrical checks on switch assemblies.

**IMPORTANT:** Control switches are not sold separately. If a switch is bad, control mount assembly must be replaced.

2. Check both ends of control cable core wires for wear and breaks. Make sure that trunion ends ("T" fittings) are "free" to rotate in control lever slots thru normal travel of lever.
3. Inspect lever and mount for cracks, chips or breaks.
4. Check control cable core wire for breaks and free movement in cable housing.

**CAUTION:** If trunion end ("T" fitting) is not "free" to rotate in control lever slot, use a small grinding tool and remove sufficient material from control lever slot to permit "free" swiveling of core wire fitting.

5. Inspect cable housing and cable ends for cracks, breaks and damaged threads.
6. Inspect snap ring, attaching pin and set screw for distortion, breaks, wear and damaged threads.
7. Check brake return spring for tension and distortion.
8. Replace parts as necessary.

## REASSEMBLY and INSTALLATION

### THROTTLE CONTROL, EMERGENCY STOP SWITCH and TETHER STOP SWITCH

1. Install set screw several turns into control mount.
2. Attach control lever to mount with attaching pin and secure with washer and snap ring.

**IMPORTANT:** Attaching pin must be installed in lever and mount with snap ring "down" when mounted on handlebar.

3. Insert switch wires thru dash opening.
4. Slide control assembly and handlebar grip on handlebar.
5. Position throttle control as desired and tighten set screw in mount.
6. Connect emergency stop switch wires and tether stop switch wires to proper terminals of terminal block. (Refer to "Wiring Diagrams", Section 3, Part F.)
7. Route throttle cable thru dash opening and to throttle control.
8. Install trunion end ("T" fitting) of throttle cable core wire in slot in throttle lever.
9. Install end of throttle cable housing in recess of control lever mount and secure with snap ring.
10. If removed, connect throttle cable to each carburetor as follows:
  - a. Insert throttle cable core wire thru hole in throttle body cover and install cover on cable adjuster.
  - b. Place throttle valve spring around cable core wire. Compress spring into cover assembly and hold in this position.
  - c. Install throttle cable core wire into throttle valve by inserting core wire thru hole in throttle valve, sliding cable over in slot and pulling back into recess.
  - d. Refer to "Sno-Twister Jet Needle Adjustment", Section 4, Part A, and check location of "E" ring in jet needle slots.

- e. Install jet needle in throttle valve. Place throttle cable plate in throttle valve. Be sure that throttle cable plate is properly positioned on top of jet needle and with flange on plate inserted in throttle cable core wire slot (to prevent core wire from moving over in slot).
- f. Release throttle valve spring into throttle valve. When spring is properly positioned, it will hold throttle cable plate and jet needle securely in throttle valve.
- g. Install throttle valve and cover assembly into carburetor. (Figure 1) Tighten throttle body cover securely.

**NOTE:** Throttle valve fits one-way only. Pin in carburetor body rides in slot on side of throttle valve when valve is properly positioned. If desired, throttle body cover may be "safety-wired" to prevent loosening.

11. Refer to "Throttle Adjustment", following, and adjust throttle.

### BRAKE CONTROL, HEADLIGHT DIMMER SWITCH and STOPLIGHT SWITCH

1. Install set screw several turns into control mount.
2. Attach control lever to mount with attaching pin and secure with washer and snap ring.

**IMPORTANT:** Attaching pin must be installed in lever and mount with snap ring "down" when mounted on handlebar.

3. Install trunion end ("T" fitting) of brake cable core wire in slot in brake lever.
4. Install end of brake cable housing in recess of control lever mount and secure with snap ring.
5. Insert brake cable and switch wires thru dash openings.
6. Slide control assembly and handlebar grip on handlebar.
7. Position brake control as desired and tighten set screw in mount.



8. Connect dimmer switch wires and stoplight switch wires to terminals of terminal block and chassis harness. (Refer to "Wiring Diagrams", Section 3, Part F.)
9. Install brake cable thru brake mount bracket and secure with attaching nut. Cable support spring must be posi-

tioned against mounting bracket.

10. Place brake return spring around brake cable core wire and install brake cable core wire into clevis. (Figure 2)
11. Refer to "Adjustment, Brake", following, and adjust brake. Secure brake adjustment nut with cotter pin.

## ADJUSTMENT

### THROTTLE

1. Remove carburetor air intake from carburetors.
2. Loosen cable adjuster jam nut (Figure 3) on each carburetor.
3. Turn cable adjuster(s) until "slack" is removed from cables.
4. Refer to "Sno-Twister Carburetor Throttle Valve Synchronization", Section 4, Part A, and synchronize carburetors.
5. Tighten cable adjuster jam nuts.
6. Install carburetor air intake.



Figure 3. Sno-Twister Carburetors

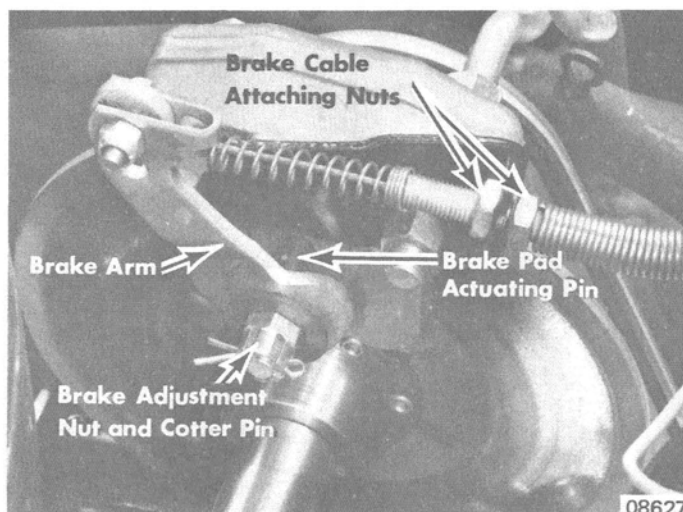


Figure 4. Brake Assembly

### BRAKE

1. Check alignment of brake pad actuating pins to brake arm. (Figure 4) Without actuating brake lever, pins must be in center of brake arm depression. Adjust brake cable attaching nuts (Figure 4), as necessary, to align actuating pins to brake arm.
2. Remove cotter pin and turn brake adjustment nut (Figure 2) clockwise until brake discs make contact with, and cause drag on, brake disc.
3. Back adjustment nut off  $\frac{1}{2}$ -turn, or far enough to allow  $\frac{1}{4}$ " (6.4mm) "free travel" of brake lever before brake engages. Secure brake adjustment nut with cotter pin.