

VOLKSWAGEN

INSTRUMENT CLUSTER

1973

Type 1 (Beetle) — Disconnect battery ground cable. Remove five screws securing cluster. *NOTE* — Cluster screws are covered by small strips on left and right and by a cap in the center. Disconnect speedometer cable and wiring, remove cluster.

Type 2 (Bus) — Disconnect battery ground cable. Remove cluster securing screws and tilt cluster outward. Disconnect speedometer cable and wiring and remove cluster.

SPEEDOMETER

1963-72

Disconnect electrical wiring to speedometer. On Type 2, remove instrument cluster housing screws and tilt cluster forward for access to speedometer. On all models, disconnect speedometer cable, remove attaching screws, and lift speedometer from front of instrument panel.

1973

Types 1 & 2 — Speedometer is accessible for removal after instrument cluster is removed.

Types 3 & 4 — Disconnect battery ground cable. Detach speedometer cable and electrical wiring. Remove attaching screws and pull out speedometer through front of panel.

HAZARD WARNING FLASHER

1963-72

Disconnect battery. On Types 1, 2 & 3, remove electrical connections and securing bolt. On Type 4, remove fuse block and unplug unit.

HAZARD WARNING & TURN SIGNAL FLASHER

1973

Type 1 — Flasher is mounted on steering column support.
Types 2, 3 & 4 — Flasher is a plug-in unit on the fuse block.

IGNITION SWITCH

1973

All Exc. Type 2 — Disconnect battery ground cable, turn signal switch plug and ignition switch plug. Remove steering wheel and turn signal switch. Remove switch retainer, press ignition switch plug upward out of guide and disconnect wires. Pull lock cylinder with key outward far enough so that lock cylinder may be depressed through hole with piece of stiff wire. While depressing cylinder, pull out cylinder by pulling on key.

Type 2 — Disconnect battery ground cable. Remove ignition switch housing and disconnect wiring behind instrument panel. If necessary, drill out blind hole using a No. 39 (2.5 mm) drill. Press down retaining spring with drill or piece of stiff wire and pull lock cylinder out of housing with key. When installing, if hole was drilled, close hole with piece of wire which can only be removed by drilling.

STOP LIGHT SWITCH

1963-73

Switch is a hydraulic type mounted on the master cylinder.

HEADLIGHT & EMERGENCY WARNING SWITCHES

1963-72

Disconnect battery. Unscrew switch knob. Using a suitable tool (VW 674/1), remove switch bezel. Pull switch out from rear of instrument panel. Disconnect electrical couplings.

WINDSHIELD WIPER SWITCH

1963-72

Disconnect battery. Bleed pressurized air from windshield washer unit. Unscrew wiper switch knob and pull out windshield washer push button. Using suitable tool (VW 674/1), remove switch bezel. Remove both hoses from fresh air control box (to fresh air outlets). Pull switch downward and out. Disconnect water hoses and wiring note wire positions for reassembly).

VOLVO

INSTRUMENT CLUSTER

1973

1963-72

Disconnect battery ground. Remove lower portion of instrument panel by unscrewing two attaching screws (one on left side back of body, and the other next to glove box). Pull upper section back until it loosens from panel clips. Detach panel from hood release mechanism, remove heater controls, and unscrew speedometer cable. Remove instrument flange nuts. Tilt cluster out for access, detach electrical connections, and remove cluster.

140 & 160 Series — Disconnect battery ground cable and proceed as follows:

1) Remove steering column shrouds. Loosen bracket screw and allow bracket to drop down towards steering wheel. Remove instrument cluster mounting screws. Disconnect speedometer cable.

2) Take hold of back side of speedometer and press upwards until snap lock on upper edge releases. Lift cluster forward and disconnect wiring and tachometer drive cable (if equipped). Cluster can now be removed.

VOLVO (Cont.)

SPEEDOMETER & GAUGES

1963-72

Speedometer and all gauges may be removed after the instrument cluster is removed.

1973

All, Exc. 1800ES — Speedometer and all gauges may be removed after instrument cluster is withdrawn from panel.

1800ES — Disconnect battery ground cable. Detach wiring and drive cable on instrument to be removed. Remove nuts and attaching bracket and pull instrument straight out.

TURN SIGNAL & HAZARD WARNING FLASHER

1963-72

Flasher unit is located directly in back of emergency flasher switch.

1973

140 & 160 Series — Flasher is mounted behind instrument cluster.

1800ES — Flasher is mounted under instrument panel.

IGNITION SWITCH

1969-72

164 — Remove plastic shroud covering ignition switch. Remove ignition switch from steering wheel lock by extracting attaching screws.

1973

Disconnect battery cable. Remove ignition switch from steering wheel lock by unscrewing both bolts holding switch to lock assembly.

STOP LIGHT SWITCH

1963-73

Switch is a mechanical type located on the pedal bracket. Adjust switch to provide approximately $\frac{1}{8}$ - $\frac{5}{32}$ " (3.18-3.97 mm) clearance between brake pedal and switch plunger.

NEUTRAL SAFETY SWITCH

1963-72

Switch is located on left side of transmission. To adjust, proceed as follows:

- 1) Place selector lever in "D" position and loosen lock nut on switch. Loosen switch, but allow it to remain attached by several threads. Connect a test light to starter inhibitor terminals.
- 2) Screw switch in until test light goes out. Mark this position on transmission and on switch. Connect test light to other switch terminals and screw switch in until bulb lights. Mark this switch and transmission.
- 3) Unscrew neutral safety switch until it is halfway between the two marks. Tighten lock nut and check vehicle starting operation. Be sure vehicle will not start in any gear except neutral or park.