1964-65 LINCOLN CONTINENTAL

CONVERTIBLE TOP
REPAIR & ADJUSTMENT
MANUAL
CONVERTIBLE TOP

OPERATION AND SCHEMATIC DIAGRAMS

A PRODUCT OF Ford MOTOR COMPANY
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## TOP ERECT CYCLE
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FIGURE 1 - 1965 Lincoln Continental Convertible Top and Deck
Electrical and Hydraulic Components

DESCRIPTION AND OPERATION

The convertible features automatic lowering of the top assembly into the luggage compartment. The deck lid completely conceals the top when it is in the retracted position. The operation of the top is accomplished by electrically powered mechanical and hydraulic linkage.

The top operation is divided into two cycles; the retract cycle in which the top unlocks and lowers into the luggage compartment, and the erect cycle in which the top is raised from the stacked position and locks to the windshield header.

The car should be stopped and all side windows lowered before the top is operated. The ignition switch must be in the ACC or ON position, preferably with the engine running. The transmission selector lever must be in either the N or P position; then, actuate the top control switch.

To retract (lower the top), push the top control switch down and hold it until the deck lid has fully opened. Then, make sure that nothing is stored in the luggage compartment that could interfere with the top as it is lowered. Hold the top control switch down again until the top retract cycle is completed.
To erect (raise the top), push the top control switch up to open the deck lid and raise the top assembly into position. After the deck lid closes and locks, release the top control switch.

The top can be stopped at any time in either cycle (retract or erect) simply by releasing the top control switch. When the top control switch is released, the solenoid valves, which are connected to the hydraulic pressure lines, close and prevent further movement of the top assembly until the circuit is reactivated by moving the top control switch. Do not attempt to manually force the top or deck lid either up or down.

ELECTRICAL SYSTEM

The electrical system includes four reversible motors; the top lock motor that drives two hook locking rods that lock and unlock the top to the windshield header; the upper back panel motor that drives the upper back panel by a small transmission; the deck lock motor that locks and unlocks the deck lid through flexible drive cables; and the top-deck motor that drives a hydraulic pump which supplies hydraulic fluid pressure to open and close the deck lid and the top assembly.

There are 11 relays; the top control neutral relay is used as a safety device in the control circuit. This relay is located on the mounting plate located behind the right front fender splash shield. The control circuit cannot be energized until the top control neutral relay contacts are closed. The circuit is complete only when the neutral switch is closed. The circuit is closed when the transmission: selector lever is in P or N and the ignition switch is in the ACC or ON position. The control circuit to the top control switch is identical for both the top retract cycle and top erect cycle. Current flows from the ignition switch, through the top control neutral relay, the transmission neutral switch, and the starter motor relay to ground. The top control neutral relay is energized, closing the relay contacts, and current flows from the 10-ampere circuit breaker through the top control switch.

The remaining 10 relays are used to energize the motors and the three solenoids.

The electrical system is protected by five circuit breakers; a 50-ampere circuit breaker in the power circuit, a 10-ampere circuit breaker in the top control circuit and three individual 15-ampere circuit breakers, one for each motor feed circuit. The 50-ampere circuit breaker and the 10-ampere circuit breaker are located on the wiring and circuit breaker assembly which is located on the right cowl side panel behind the kick pad.
HYDRAULIC SYSTEM

The deck lid and convertible top assembly are each operated by two hydraulic cylinders, receiving pressure from one electrically powered reversible motor and pump. The hydraulic fluid pressure is controlled by three electrically activated solenoid valves, two for the top assembly, and one for the deck lid.

FIGURE 2 - Deck Open & Top Up Cycle
DECK OPEN CYCLE:

The deck open relay energizes the top and deck motor and pump assembly and simultaneously opens the deck solenoid. Hydraulic fluid under pressure supplied by the clockwise rotation of the pump is applied to the piston in the deck lid lift cylinders through the hoses connected to the lower fittings of the cylinders.

As the fluid pressure forces the piston to travel upward in the cylinder it displaces the fluid on the other side of the pistons and returns this fluid through the hoses connected to the upper fittings of the cylinders back to the pump and reservoir.

The cycle can be stopped at any time by release of the control switch opening the circuit to the deck open relay. The open circuit stops the pump motor and automatically closes the deck solenoid.

TOP UP CYCLE: (ERECT)

The top up relay energizes the top and deck motor and pump assembly and simultaneously opens the top solenoids. Hydraulic fluid under pressure supplied by the clockwise rotation of the pump is directed through the upper top solenoid and is applied to the piston in the top lift cylinders through the hoses connected to the upper fittings of the cylinders. As the fluid pressure forces the piston to travel downward in the cylinder it displaces the fluid on the other side of the piston and returns this fluid through the hoses connected to the lower fittings of the cylinders, back through the lower top solenoid to the pump and reservoir.

The cycle can be stopped at any time by release of the control switch opening the circuit to the top up relay. The open circuit stops the pump motor and automatically closes the top solenoids.
HYDRAULIC SYSTEM

- PRESSURE
- RETURN

DECK CONTROL SOLENOID OPEN FOR DECK CLOSE CYCLE

NOTE: MOTOR ROTATION COUNTERCLOCKWISE FOR THESE TWO CYCLES.

FIGURE 3 - Deck Close & Top Down Cycle
DECK CLOSE CYCLE:

The deck close relay energizes the top and deck motor and pump assembly and simultaneously opens the deck solenoid. Hydraulic fluid under pressure supplied by counterclockwise rotation of the pump is applied to the piston in the deck lift cylinders through the hoses connected to the upper fittings of the cylinders. As the fluid pressure forces the piston to travel downward in the cylinder it displaces the fluid on the other side of the piston and returns this fluid through the hoses connected to the lower fittings of the cylinders back through the deck solenoid to the pump and reservoir.

The cycle can be stopped at any time by release of the control switch opening the circuit to the deck close relay. The open circuit stops the pump motor and automatically closes the deck solenoid.

TOP DOWN CYCLE: (RETRACT)

The top down relay energizes the top and deck motor and pump assembly and simultaneously opens the top solenoids. Hydraulic fluid under pressure supplied by the counterclockwise rotation of the pump is directed through the lower top solenoid and is applied to the piston in the top lift cylinders through the hoses connected to the lower fittings of the cylinders. As the fluid pressure forces the piston to travel upward in the cylinder it displaces the fluid on the other side of the piston and returns this fluid through the hoses connected to the upper fittings of the cylinders, back through the upper top solenoid to the pump and reservoir.

The cycle can be stopped at any time by release of the control switch opening the circuit to the top down relay. The open circuit stops the pump motor and automatically closes the top solenoids.
**DECK LID UNLOCK**

With the top control switch in the top down position, current flows from the top control switch, through the upper back panel limit switch, the deck open limit switch, (#1 for 1964) and the deck unlock relay coil to ground. The deck unlock relay coil is energized, closing the relay contacts which complete the power circuit from the 50-ampere circuit breaker, through the 15-ampere circuit to the deck lock motor. The motor is energized and the deck lid is unlocked.
Fig. 5 - Deck Lid Open - Top Retract Cycle

DECK LID OPEN

As soon as the deck lid is unlocked, the deck closed limit switch contacts are repositioned. The current now flows from the top control switch through the upper back panel limit switch, through the deck open limit switch (#1 for 1964) through the deck closed limit switch and the deck open relay coil to ground. This closes the deck open relay multiple contacts which complete the power circuits from the 50-ampere circuit breaker to the top and deck motor and the deck solenoid valve.

The deck solenoid valve is energized and the proper hydraulic lines are opened to the deck lift cylinders. At the same time, the top and deck motor is energized and the deck lid is opened. The deck locks continue to operate until the deck is completely open.
Fig. 6 – Upper Back Panel Erect – Top Retract Cycle

UPPER BACK PANEL ERECT

When the deck lid is completely open, the plunger of the deck open limit switch is depressed and the switch contacts are repositioned. The current now flows from the top control switch, through the deck open limit switch (#1 for 1964) the upper back panel limit switch, and the upper back panel erect relay coil to ground. The upper back panel relay contacts close and the power circuit is completed from the 50-ampere circuit breaker through the 15-ampere circuit breaker to the upper back panel motor. The motor is energized and the upper back panel is erected.
Fig. 7 - Top Unlock – Top Retract Cycle

TOP UNLOCK

As soon as the upper back panel is in the erect position, the upper back panel limit switch is actuated and the switch contacts are repositioned. The current now flows from the top control switch, through the top unlock limit switch, the upper back panel limit switch and the top unlock relay coil to ground. The relay contacts close and complete the power circuit from the 50-ampere circuit breaker through the 15-ampere circuit breaker to the top lock motor. The motor is energized and the top is unlocked.
**TOP RETRACT**

When the top is unlocked, the top unlock limit switch is actuated and the switch contacts are repositioned. The current now flows from the top unlock limit switch, through the top down limit switch, and the top down relay coil to ground. This closes the relay multiple contacts and completes the power circuits to the top and deck motor and the top solenoid valves. The two top solenoid valves are energized and the proper hydraulic lines are opened to the control cylinders. At the same time, the top and deck motor is energized and the top is lowered into the luggage compartment.
DECK LID CLOSE AND LOCK

When the top is stowed in the luggage compartment, the top down limit switch is actuated and the switch contacts are repositioned. The current now flows from the top control switch, through the top down limit switch, the deck closed limit switch, and the deck close relay coil to ground. The relay contacts are closed and the power circuit is complete from the 50-ampere circuit breaker to the top and deck motor and the deck control solenoid valve.

The deck control solenoid is energized and hydraulic lines are opened to the deck control cylinders. The top and deck motor is also energized and the deck lid is closed. This action is interrupted when the deck lid depresses the plunger on the deck closed limit switch.

At the same time the deck lid is closing, the deck lock motor is energized. This is accomplished by the current flowing from the top down limit switch through the deck lock relay coil to ground. This closes the relay contacts and completes the power circuit to the deck lock motor. The deck lock motor is energized until the top control switch is released.
**DECK LID UNLOCK**

With the top control switch in the top up position, current flows from the top control switch, through the top down limit switch, the deck open limit switch (#2 for 1964) and the deck unlock relay coil to ground. The relay is energized, the contacts are closed, and the power circuit is completed to the deck lock motor. The motor is energized and the luggage compartment is unlocked.
DECK LID OPEN

As soon as the deck lid is unlocked, the deck closed limit switch contacts are repositioned. Now the current flows from the top down limit switch, through the deck open limit switch, (#2 for 1964) through the deck closed limit switch, and the deck open relay coil to ground. The relay multiple contacts close and the power circuits to the deck control solenoid valve and the top and deck motor are completed. The deck control solenoid valve is energized and the hydraulic lines are opened to the deck hydraulic control cylinders. The top and deck motor is energized and the deck lid is opened. The deck lock motors continue to run until the deck is completely open.
**WIRING COLOR CODE**

- R - RED
- G - GREEN
- Y - YELLOW
- V - VIOLET
- BL - BLUE
- W-R - WHITE - RED STRIPE
- W-BL - WHITE - BLUE STRIPE
- BR.W - BROWN - WHITE STRIPE

**Fig. 12 — Top Erect — Top Erect Cycle**

**TOP ERECT**

When the deck lid is completely opened, the deck open limit switch plunger is depressed and the switch contacts are repositioned. The current now flows from the top control switch, through the top up limit switch rear, the deck open limit switch, (#2 for 1964) and the top up relay coil to ground. The relay multiple contacts are closed and the power circuits are completed to the top and deck motor and the two top control solenoid valves. The two top control solenoid valves, when energized, open the hydraulic lines to the top hydraulic control cylinders; at the same time the top and deck motor is energized and the top is erected.
Fig. 13 – Top Lock — Top Erect Cycle

TOP LOCK

As the top approaches the full up position, and the package tray seats in position, the top up limit switch rear is depressed, opening the circuit to the top up relay. This stops the top motor and pump assembly. At the same time the top comes in contact with the windshield header, the contacts of the top up limit switch front are closed. The current now flows from the top control switch, through the top up limit switch front, upper back panel limit switch, and the top lock relay coil to ground. The relay contacts close and the power circuit is completed to the top lock motor. The motor is energized and the top is locked into position. The lock motor remains energized until the upper back panel is retracted.
UPPER BACK PANEL RETRACT

During the top locking action, the top lock limit switch is actuated and the switch contacts are closed. This permits the current to flow from the top control switch, through the top lock limit switch, the upper back panel limit switch, and the upper back panel retract relay coil to ground. The relay contacts close, completing the power circuit to the upper back panel motor, and the upper back panel is retracted. The top lock motor remains energized until the upper back panel is fully retracted.
Fig. 15 – Deck Lid Close and Lock – Top Erect Cycle

DECK LID CLOSE AND LOCK

As soon as the upper back panel is retracted, the upper back panel limit switch is actuated and the switch contacts are repositioned. This stops the top lock motor and the upper back panel motor. The current now flows from the top control switch, through the upper back panel limit switch, the deck closed limit switch, and the deck close relay coil to ground. The deck close relay multiple contacts close and the power circuits are complete to the deck control solenoid valve and the top and deck motor. The deck control solenoid valve and the top and deck motor are energized, closing the deck lid. Current also flows through the upper back panel limit switch, through the deck lock relay coil to ground. The relay is energized, closing the circuit to the deck lock motor. As the deck lid reaches the closed position, the deck closed limit switch is depressed and the deck close circuit is broken. The deck lock circuit will continue to be energized, and the locks will ratchet until the top control switch is released.