Horizontal Steering Column

INSTALLATION MANUAL & OWNER’S GUIDE
Mobility Dealer and Installing Technician

Congratulations,

You have just purchased the finest mechanical Horizontal Steering Column that has been in use since the early 1980’s. This system will give you many miles of driving pleasure. Installing technician please read and follow the directions and your installation will be trouble free. Remember after installation to secure your fasteners and complete a test drive for proper operation before fitting your customer.

If you have any questions call 973-808-9709 between 8 am and 4:30 pm, Monday through Friday and ask for technical assistance.

Thank you for supporting Drive-Master Products.

Yours in mobility,

[Signature]

President
Warranty

Drive-Master manufactured parts are warranted against defects in materials and workmanship under normal use for one year from date of purchase. All parts alleged to be defective will be repaired or replaced at Drive-Master’s option. A credit memo will be issued upon receipt of the defective part, provided: a) The invoice number of the original purchase is supplied; b) The return **WITHIN** 30 days of receipt of replacement parts; c) The returned merchandise is **NOT** modified, disassembled, or altered; d) The part falls within warranty terms.

Return Policy

In order to better serve you, our return authorization program for the return of merchandise is as follows:

We will **NOT** accept defective or returned parts without a return authorization (RA) number. In order to receive an RA number, call our shipping department and request one - make sure to have available the invoice number, date of purchase, and EXACT reason for returning the parts. Advise as at the time whether you want the part replaced prior to our receipt. If so, parts will be shipped COD. The RA number should be displayed prominently on the outside of the shipping carton, as well as on the paper work inside the carton. We will **NOT** pay freight beyond ground shipping under any circumstances, nor will we issue credit for any parts we receive that were: a) special orders; b) broken due to faulty installation; c) modified in any way; d) out of warranty; or e) taken apart for any reason.

Drive-Master will accept return of new, unused merchandise and will issue credit less a 15% restock charge, only if: a) The merchandise is not damaged, disassembled, or altered in any way; b) It is returned within 30 days of original purchase; c) It was not a special order item; and d) The invoice number of the original purchase is supplied.

Warning: When removing defective equipment, do **NOT** cut the wire harnesses (must be disconnected). Cutting wire harness voids the warranty.
Parts List

1 - Horizontal Column Assembly
1 - DPDT Toggle Switch
2 - Female Spade Connectors 18 Ga.
2 - Female Spade Connectors 14 Ga.
2 - Pink Butt Connectors
3 - #10 Eyelets 14 Ga.
1 - 4’ 18 Ga. Red Wire
1 - 4’ 18 Ga. Black Wire
1 - 6’ 14 Ga. Red Wire
1 - 3’ 14 Ga. Black Wire
1 - Resistor Kit for Air Bag Shunt
Removal & Installation of the OEM Steering Column

To remove the OEM steering column and re-install the modified steering column, please reference the OEM vehicle specific installation manual. Before the column is removed, make sure the front wheels are straight ahead.

Disconnect the OEM Battery.

Remove the OEM steering wheel to expose the VSC steering module AKA clock spring.

Remove the module, maintain the module position by securing with tie wires and masking tape. It is very important that this module does not move. You will ship this to use with the column. See note.

Pack and ship column to Drive-Master. Proper packaging is mandatory as any damaged component will be back charged to your dealership.

NOTE:
2008 Dodge and Honda require the VSC module be added on to the Drive-Master Horizontal Column. Ford and Toyota do not.
DRIVE-MASTER HORIZONTAL STEERING COLUMN ASSEMBLY

Fully assembled shipped from our factory - ready for installation.

Modified steering with VSC module assembly: If applicable.
Drive-Master horizontal steering column adjustments.

**WARNING:** When adjusting and fitting your client make sure you double check that all fasteners are fully tightened. See tightening specifications.

Shown: 2” max adjustment out. Note caution label. Also used to rotate the steering head off level. Note: If you need a longer length, call and order longer one, please supply measurements.
Drive-Master horizontal steering column shown in full down position.

Drive-Master horizontal steering column shown in full up position.
Drive-Master horizontal steering column shown offset to the right.

Drive-Master horizontal steering column in Ford F250 with optional cover.
Positioning of steering wheel. Note: can be turned to 5 positions for proper setting of steering device or pull out head completely, turn to position and reinsert head. Tighten to specs

When the VSC is added to your Horizontal Steering Column, slide adaptor all the way towards the gear box. Leave a slight space before tightening. Do not jam into the gear box.
Adaptor for steering module.

Steering module modified by Drive-Master for reinstallation on horizontal tee.

Only 2 OEM plugs get re-attached.
IMPORTANT
Setting Up The Modified Steering Module For Installation

The horizontal steering column must be installed in the vehicle fully assembled, all fasteners tightened and ready for the road test.

Have the adaptor for the steering module on board for your road test.

NOTE: The VSC dash lite or something similar will lite up on the dash board. This is normal and later we will tell you how to reset.

1. Drive the vehicle in a straight line straight down the road. Position the steering module adaptor on the shaft and set it so the flat spot is parallel to the floor when the vehicle is driving straight down the road. Once you have your position tighten both set screws making sure they bite into the shaft of the gear box. Return to shop, turn off vehicle and slide on the steering module lining up it’s lot to correspond with the slot of the adaptor.

2. Attach steering module with 2 machine screws supplied. Plug in the 2 OEM wire plugs in the front, the side facing you. We had modified the unit so only these 2 plugs reattach. These OEM wires need to be extended & neatly run along the horizontal column, making sure there is enough wire for the tilting feature of the column.

3. Once the steering module is attached and wired, take the vehicle out for another test drive. During this test drive the VSC dash lite will reset itself if you have it aligned correctly.

Note:

Horizontal Steering Column changes/adjustments can effect the steering module center and dash light.

If after the technition road test & steering module set up, the position of the tee gear box changes at customer fitting, or the following occurs.

1. You pull out the gear box and moved to a different position.

2. You rotate the gear box to change the level of the steering plate. This may affect the module as to straight down the road and you may have to remove the module & reset. Go back to setup # 3.
Maintainence

Lubrication of U-Joints. They are lubricated by us at the factory. Regrease every 6 months at check up. Check for excessive play by holding column and turning the wheel. Replace as necessary for excessive wear. NOTE: 3 joint ends to grease. See pictures.

Check all hardware on Horizontal Column, OEM column and shaft to OEM gear box or steering rack. Make sure they are tightened to OEM specs.
Troubleshooting Maintainence

This is a mechanical system to which we have added from the OEM tilt mechanism toward the driver a fully adjustable horizontal steering system. We have not compromised the OEM crash worthiness of the OEM steering column.

Should you encounter a mechanical bind or noise when you turn the steering wheel or steering plate: the U-Joints are angled too much - the U-joints are worn out & need replacement and or the 90° gear box could have internal gear problems. Replace if this is the problem..

Re angle the column until noise disappears. U-joints must be lubricated with red grease once a year. See pictures of U-joints. You must use a needle adaptor or small grease gun for lubrication.
Resistor Kit For Air Bag

INSTRUCTIONS:

Disconnect battery.

Cut off the yellow connector, column side, at the steering module clock spring. Leave adequate wire to crimp on shunt.

Leave the shunt inside adaptor.

Check for rubbing after assembly. Reconnect battery.

1. Disconnect battery.

2. Remove air bag from column.

3. Read resistance from air bag. You may need to use two zip ties to separate shorting tab. This prevents air bag from deploying on assembly & disassembly of air bag.

4. Find correct resistor and solder resistor in.

5. Reinstall wheel.

6. Reconnect battery.

7. Check to see if air bag light is on.
HORIZONTAL STEERING COLUMNS WARNING

STEERING WHEEL MUST NOT BE TURNED UNLESS THE ENGINE IS RUNNING OR THE BACK-UP STEERING IS ACTIVATED. THE GEAR BOX WILL BREAK IF THESE INSTRUCTIONS ARE NOT FOLLOWED.

Note to Dealer: Photocopy this page and hand to customer