

CAE PERFORMANCE PRODUCTS

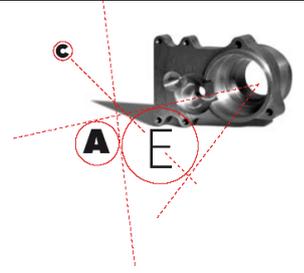
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Universal Cable Wiper Kit Component List

WM-CABLE-UNI-KIT

Wiper Motor Assembly with Flexible Drive Cable (120 Deg Sweep, x 1200 mm Flexible Cable)

Wiper Mounting Bracket, U Clamp, and Rubber

Two Wheel boxes, Spacers, 45 deg & 90 degrees, and Bezel and Nut

Wiring Loom, Switch and In Line Fuse. 2 x 600mm Bundy Tube.

Customer Instruction Sheet

Note: The flared tubing must be cut to the correct length. Cut to length and flare by using a standard Flaring tool. Tubing used is standard 5/16 Steel Brake tubing. Do not kink these tubes as serious damage to the wiper motor will occur. **Kink or dented tube must be replaced.**

Some gentle bending can be done in a standard tube bender tool to give a better fitment to the cable drive.

It is recommended to use a piece of 3/8" flared tubing where a tight radius is required especially if you are fitting the tubing up the window side pillars for top mounting wheel boxes.

If you are mounting at the top of windscreen use the straight spacer and cut to suit.

It may be necessary to fit tube spacers to the wheel box posts to give the correct angle of operation in relation to the windscreen glass.

After flaring the tube, it helps if you run a 1/4 drill into the tube to ease the fitment of the Flex Drive cable and give a smoother movement where flaring may have caused some disfiguration internally. Any excess spiral drive cable length can be cut off by removing the end tube and cut with 4" grinder, just short of the end piece length. Refit end piece to cover the cable.

Fitting Instructions

Universal Cable Driven Wiper Kit

- 1 Locate suitable position of the Wheel boxes, Drill 5/8 clearance hole at the correct angle to give the pressure on the blades. (Should be as close to 90 degrees to the windscreen glass as possible.)
- 2 Fit the two new wheel boxes and file to shape the tube spacer to suit the curvature of the cowl on both Posts or cut the straight spacers to fit when mounting on the top of windscreen.
If you wish to have the park position with both blades in the centre of the windscreen, the one wheel box will be mounted with the tubes and cable at the top of the wheel box, and the other wheel box with the tube and cable on the bottom of the wheel box. (See drawing for correct installation)
- 3 Fit the centre tube between each wheel box and the end tube to the RH Side wheel box, making sure the tube flares fit into the wheel box slots provided. It may be necessary to gently bend the tube slightly to allow correct fitment
Grease with suitable wheel grease or silicon grease the entire cable, then feed the Flexible cable thru the first wheel box, support the wiper motor while you mount the first tube into the wheel box and mount the wiper motor bracket to vehicle and the wiper motor to its bracket.
- 4 **DO NOT STRAIN THE WIPER FIRST TUBE IN ANY WAY. (If the Tubes get any kinks or dents in them they must be replaced or the wiper motor can be seriously damaged.)**
- 5 Fit 2-speed switch in appropriate hole and install wiring loom supplied.

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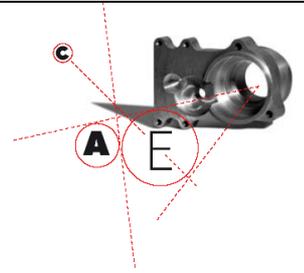
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Continued

- 6 Connect Brown wire to suitable earth location on the vehicle

- 7 Connect Red feed wire through Fuse supplied to suitable Ignition Feed Wire on Ignition Switch of vehicle. Activate the wiper motor and check for smoothness of operation. Tighten all wheel boxes cover plates. Retest wiper operation.

- 8 Fit original arm or new wiper arm and blades in the park position

- 9 Activate power and check wipers for sweep and all body clearances. If the sweep is too large or too small, CAE has gearwheels in 10 Degree increments from 90 degree thru to 125 degree that can be exchanged by sending the gear wheel to us and advising us what degree of sweep you would like.

Windscreen Wiper Systems ----- Some useful helps.

1. Motor

This is a two speed wiper motor, with self parking.

Make sure you use the correct bracket and strap with the rubber covering, and the motor is not touching any part of the vehicle body to eliminate noise.

2. Drive Gear

When the new motor arrives there is a threaded brass ferrule to take the first drive tube. There are a couple of gears to fit this motor with the number 100 or 130 which is stamped on the top round plate. This is giving the least amount of travel to the rack and wiper arms.

On the top of the gear plate where the number is stamped there is a drive peg welded in position. This is the only item which changes position throughout all the gears (e.g. welded in different positions on the top plate.). Obviously if this peg was welded to the centre of the plate there would be no travel at all, so the further the peg is positioned to the outer edge of the plate the more travel you get. With each gear come 2 washers and a circlip retains the gear in to the motor, always pack with grease in the gear area before refitting the top cover.

3. Wheel Boxes

The wheel box size is 32 teeth on the inner drive wheel and the ideal length of shaft from the inner face to the end of the splines is 2.5 inches. This allows for the thickness of material on fibreglass cars as the first spacer can be cut down in size allowing for varying thicknesses through the bulkhead where the wheel boxes fit.

If the car has a split screen then it is quite easy to fit what was called the clapped hands system. This is by turning one of the wheel boxes through 180 degrees.

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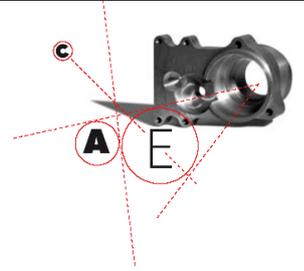
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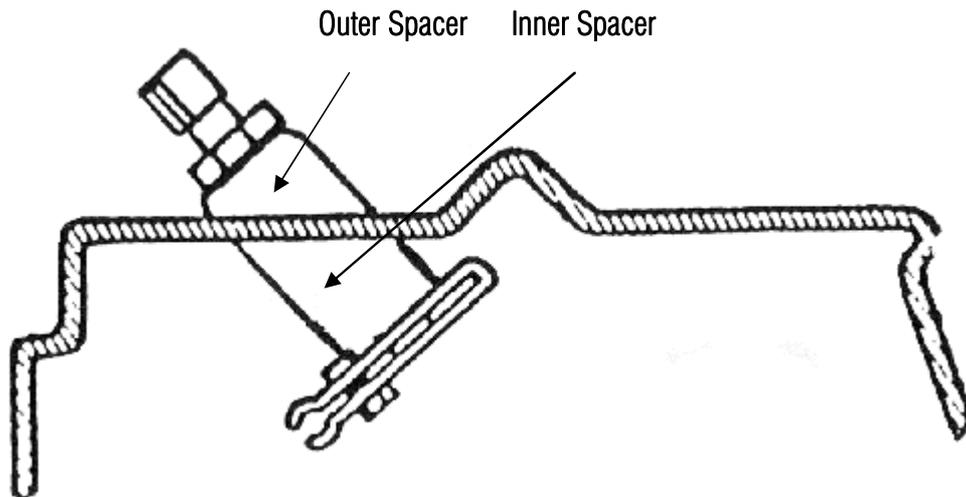
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Wheelbox showing inner and outer spacer which will require some radius work to suit individual shaped cowls



4. Drive Rack

When fitting a new system to an existing vehicle, it is advisable to fit a new drive rack as this is one of the items that wears, resulting in the wiper arms having too much play.

5. Drive or "Bundy" Tubing Sets

It is far better to use the recommended wiper tubing (5/16 Steel Brake Tube) than to use copper tube as this can be noisy and wears very quickly on any bends. Wear of the drive tube, sharp bends or kinks in the tube, causes friction that can lead to the motor burning out.

Bundy tube sets can be made up providing you give the supplier 2 dimensions. The first is the distance from the motor to the centre of the first wheel box hole, and the second the distance between the wheel box hole centres through the bulkhead. Obviously if there is a 3 wiper system then there is another dimension needed. Try to avoid sharp bends in the tubing. If you have to bend the bundy tube, an easy way to form the shape is to insert the drive rack into the tube before bending. This will keep the tube the correct diameter on any of the bends (very much like a plumber bends copper piping by inserting the spring). Always grease the rack liberally before inserting into the bundy tube.

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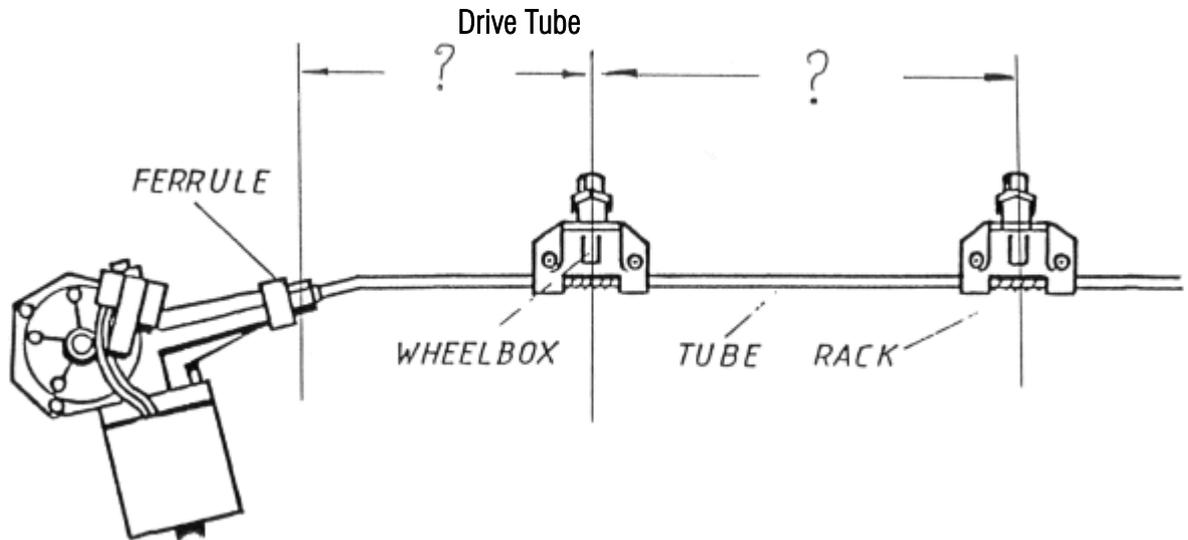
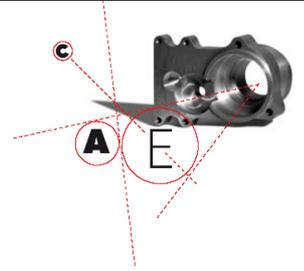
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Dimensions

DIAGRAM ABOVE IS LAYOUT FOR LEFT SIDE PARKING. IF CENTRE PARKING OF THE BLADES IS REQUIRED, THEN THE LEFT HAND WHEEL BOX NEEDS TO BE REVERSE FITTED SO THE DRIVE CABLE WILL RUN ALONG THE TOP OF THE WHEELBOX.

6. Switch

It is important that you use the correct wiper 2-speed switch as supplied. The reason for this is that when the switch is in the off position with the ignition switched on there is one connection which becomes live. This operates the parking position. If you use a non-live switch then the wipers would stop whenever the switch was switched off.

If purchasing a second hand motor make sure there are 3 wires going into the motor body. This is the way to tell if the motor is 2-speed, 1 speed only has 2 wires. Most Lucas and Stalk Column Switches are not compatible with CAE Wiper Motors. We do have a Toggle Switch and Relay Assembly available for vehicles similar to the Cobra Cars

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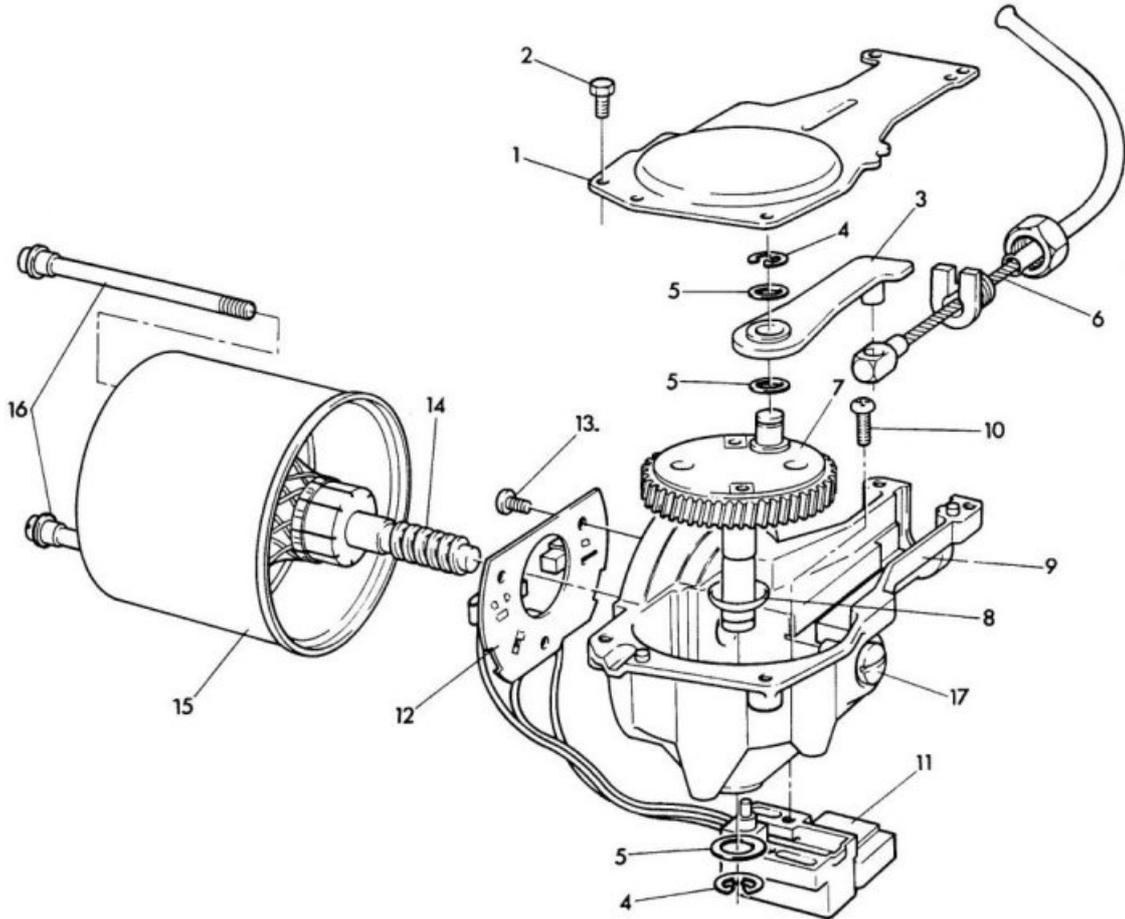
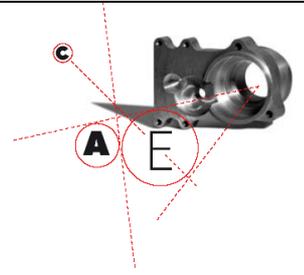
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KEY:

1 Gearbox cover

2 Screw for cover

3 Connecting Rod

4 Circlip

5 Washers

6 Flexible wiper drive

7 Gear wheel with crankpin

8 Dished washer

9 Gearbox

10 Limit switch screw

11 Limit switch

12 Brush gear

13 Screw for brushes

14 Armature

15 Yoke

16 Bolts

17 Thrust screw



CABLE WIPER KITS

Made to your requirements



WASHER KIT ASSEMBLY 1.2 LITRES

Bottle & pump assembly, mounting bracket, push button switch, tube & a twin Jet.

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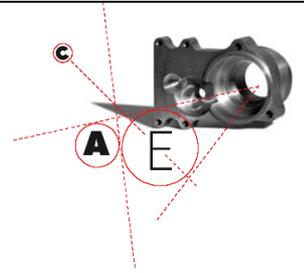
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WINDSCREEN WASH PUMP

Drive Tube (correct material) Cut & flared.

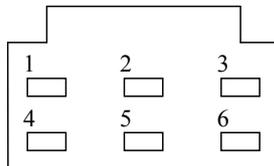
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Wheelboxes

32 tooth gear wheel. 3 1/4 inch drive shaft.

Wiper Motor Pin Outs.

Plugs viewed from the front not the wiring side



- 1) Black (Earth)
- 2) Green/Red (Low)
- 3) Blue/Red (Park)
- 4) Blank
- 5) Yellow/Blue (High)
- 6) Green/White (+ve)

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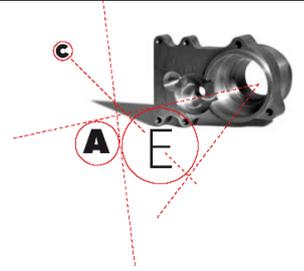
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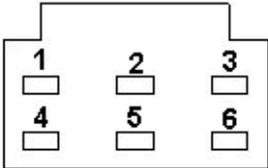
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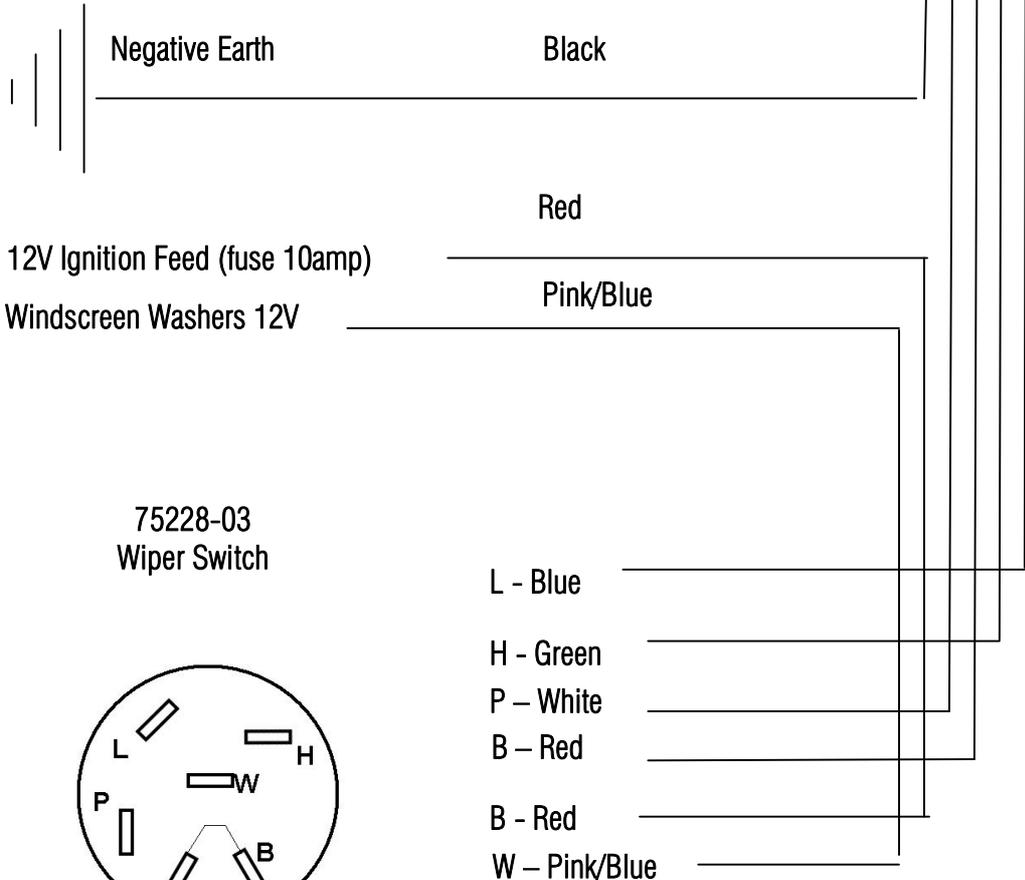


WIPER MOTOR LOOM PINOUTS



- 1) White - Park
- 2) Blue - Low Speed
- 3) Black - Earth
- 4) Red - 12V Feed
- 5) Green - High Speed
- 6) Blank

6 Pin Female Loom Plug
As Viewed from the front



Wiper switch system is 12V Positive Feed