

ELAN
1973 LOTUS CLINIC ANNUAL

BODY & INTERIOR

OWNERS OF OLDER ELANS MAY NOTICE THAT DURING ENCOUNTERS WITH WET WEATHER, WATER MAY DRIP ON YOUR TOESIES WHILE CORNERING. THIS IS SOMETIMES CAUSED BY THE DRAIN ON THE FRESH AIR INLET VENT BEING CLOGGED. IT CAN BE CURED BY JABBING A STIFF WIRE (I USE A PIECE OF CLOTHES HANGER) STRAIGHT INTO THE VENT, AND THROUGH THE RUBBER CHECK VALVE ON THE RIGHT SIDE (PASSENGER SIDE) OF THE EXTERIOR VENT OPENING. THIS IS LOCATED JUST IN FRONT OF YOUR WINDSHIELD. IT IS HELPFUL TO PEER INTO THE VENT BY LIFTING OFF THE PROTECTIVE GRILL. YOU WILL NO DOUBT SEE DIRT, LEAVES, PINE NEEDLES, GUM WRAPPERS, BUGS, AND ALL SORTS OF STRANGE ITEMS OBSTURCTING YOUR VENT. THESE SHOUD BE REMOVED.

DRIVE TRAIN

THE ORIGINAL BEARINGS ON LOTUS ELAN REAR HUBS ARE OF POOR QUALITY AND SHOULD BE REPLACED WITH A BETTER DESIGNED AMERICAN TYPE. (REF: TECH ARTICLE No. 26DT009) POOR SEALING OF THE ENGLISH BEARING RESULTS IN FAILURE FROM EXCESSIVE CORROSION. THE MOST DIFFICULT PART OF REPLACING THESE BEARINGS IS THE REMOVAL OF THE HUB. ON EARLY ELANS (BOLT-ON TYPES) A STURDY WHEEL PULLER WITH FOUR ARMS ATTACHED TO EACH LUG BOLT STUD WILL REMOVE IT. SUGGESTED PULLER, SEARS CRAFTSMAN THREE ARM UNIVERSAL WHELL HUB PULLER #9H46642 WITH AN ADDITIONAL ARM BOUGHT AND INSTALLED ON PULLER TO MAKE A FOUR ARM PULLER. FOUR ARMS ARE NECESSARY TO LOAD HUB SYMMETRICALLY TO AVOID PINCHING THE AXLE AND BENDING THE HUB. FOR KNOCK-ON WHEELS, DAVE SEMLER MET WITH SUCCESS BY TAPPING OUT THREE OF THE FIVE WHEEL LOCATING PINS ON THE HUB, AND USING THESE HOLES TO ATTACH A THREE ARM PULLER USING HIGH-STRENGTH AIRCRAFT BOLTS. IN THIS CASE, THREE ATTACHMENTS INSTEAD OF FOUR ARE REQUIRED TO APPLY A SYMMETRICALLY LOAD SINCE THERE ARE FIVE LOCATING PINS. DRIVING OUT THE AXLE FROM THE HUB IS FACILITATED BY GENTLY LOWERING THE HUB TO THE GROUND USING THE CAR'S WEIGHT TO HOLD IT FIRMLY. (DON'T FORGET TO REMOVE THE CIR-CLIPS BEFORE REMOVAL OF THE BEARINGS OR DRIVING OUT THE SHAFT).

REMOVING CLUTCH PILOT BEARING—HERE IS AN ELEGANT METHOD FOR THE REMOVAL OF THE CLUTCH PILOT BEARING. THIS BEARING IS USUALLY A PRESS FIT BRONZE BUSHING IN THE CENTER OF THE CRANKSHAFT FLANGE. IT SUPPORTS THE FORWARD END OF THE MAIN DRIVE GEAR OF THE TRANSMISSION AND SHOULD BE REPLACED WHEN THE TRANSMISSION IS REFITTED TO THE ENGINE. THE USUAL SHOP MANUAL METHOD OF REMOVAL REQUIRES THE USE OF A PULLER WHICH EXPANDS TO GRIP THE INSIDE DIAMETER OF THE BUSHING AS A CENTER SCREW IS TIGHTENED. THIS TOOL IS EXPENSIV TO BUY AND DIFFICULT TO LOCATE AT TOOL RENTAL SHOPS. THE BUSHING IS USUALLY PRESSED INTO A MACHINED CYLINDRICAL CUP, LEAVING A SMALL CLEARANCE SPACE BEHIND IT. THIS FACT ALLOWS YOU TO REMOVE THE BUSHING IN A MUCH SIMPLER AND LESS EXPENSIVE FASHION: PACK THE CENTER OF THE BUSHING WITH GREASE, MAKING SURE IT FILLS THE CLEARANCE SPACE. THEN, USING EITHER THE NOSE OF THE TRANS MISSION MAIN SHAFT OR A TIGHT FITTING WOOD DOWEL, HAMMER INTO THE GREASE FILLED CENTER OF THE BUSHING. YOU HAVE FORMED A SIMPLE HYDRAULIC RAM WHICH WILL PRESS THE BUSHING OUT FROM BEHIND.

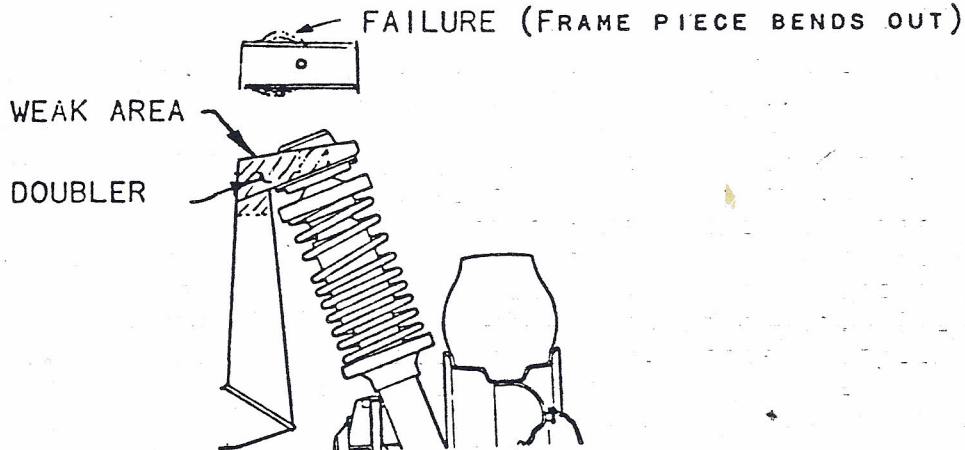
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WHEELS, TIRES, & SUSPENSION

WHEN USING SPAX SHOCKS IN THE ELAN FRONT, IT WAS NOTED THAT THE LOWER SPRING MOUNT ON THE SHOCK IS HIGHER THAN STOCK, RESULT--THE CAR WILL BE RAISED IF THE SAME SPRING IS USED. IT IS APPARENTLY NECESSARY TO CUT THE SPRING, AND I USED A SMALL GRINDING WHEEL VIA DRILL. ALSO THE LAST COIL OF THE OLD SPRING WAS REUSED IN ORDER TO KEEP APRING ALIGNMENT PROPER ON COMPRESSION.

NOTE: A MORE EXPENSIVE BUT BETTER SOLUTION IS TO HAVE NEW SPRINGS MADE AT ADVANCE SPRING IN DOWNEY, CA. BY INCREASING THE SPRING RATE AND REDUCING THE LENGTH, YOU AVIOD THE DANGER OF BOTTOMING YOUR SUSPENSION AND CAN RETAIN ORIGINAL CAR HEIGHT OR EVEN LOWER YOUR CAR. APPROXIAMTE SPRING COST \$35 A PAIR.

ANYONE WHO REMOVE THEIR ELAN BODY MIGHT CONSIDER REINFORCING THE FRAME MEMBER WHICH SUPPORTS THE REAR UPRIGHT. SEVERAL INDIVIDUALS HAVE HAD THIS AREA CRIPPLE AFTER INSTALLING STIFFER SPRINGS AND SHOCKS. THE WELDING OF A DOUBLER ABOUT THE SAME THICKNESS AS THE ORIGINAL MATERIAL IS RECOMMENDED IN THE AREA SHOWN BELOW.



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ELECTRICAL

Automatic eyes for Elan

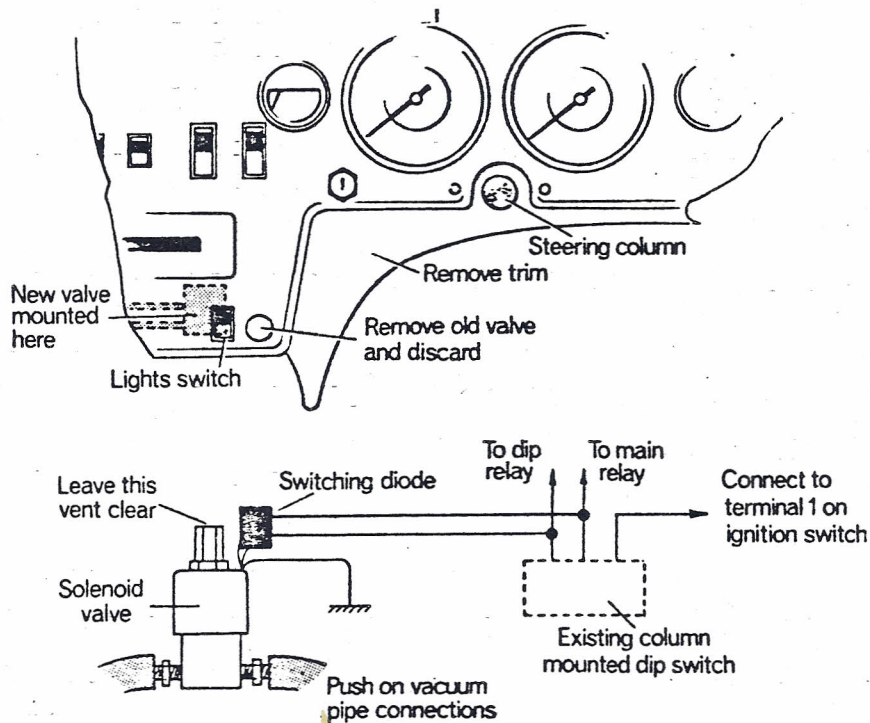
From B. A. Bell, West Monkseaton,
Northumberland

Many testers criticise the Elan for its awkward headlamp flashing arrangement, or lack of it. These difficulties may be resolved by fitting a solenoid vacuum valve which raises the lights automatically whenever the filaments are lit.

The existing system is controlled by a push-pull valve located on the right of the dashboard. Access to it is via four screws. The knob should be removed, its retaining nut undone and the two rubber vacuum pipes pulled off the valve ports. The valve can then be discarded and the pipes reconnected to the solenoid version. The black lead should be earthed and the red leads connected to the Blue/White and Blue/Black ones that come from the dipswitch and emerge from the steering column where it passes through the fascia. To bring the normally redundant flasher section of the dip/flash switch into operation, the brown lead (found by the Blue/White and Blue/Black ones) should be connected to terminal one on the ignition switch.

Now test the valve by turning on the engine and throwing the headlight switch—the lights should rise automatically. Switch it off and they should retract. If they do not, swap the pipes at their connections. The flasher operation may be checked by pulling the stalk control towards the steering wheel. This should cause the lights to rise on main beam. If all is working, wrap the valve in foam rubber and wedge it behind the dash. The hole left in the fascia by the elimination of the pull-out valve is extremely useful for mounting a switch for hazard flashers, heated rear screen, etc.

The solenoid valve used in this modification is a Skinner-Europa C5DK1060 solenoid vacuum valve. LAB Engineering Ltd, PO Box Whitley Bay, Northumberland, NE25 9RS, will post you a valve with integral diode logic and pipe connections for £6.95.



Reprint from "Motor" magazine

LOTUS ELAN OWNERS SHOULD BE CAUTIONED ABOUT DEPLOYING HEADLIGHTS WHILE DRIVING AT HIGH SPEEDS. ONE CLUB MEMBER WATCHED IN AMAZEMENT AS HIS HEADLIGHT NOT ONLY EMERGED FROM ITS RESTING PLACE, BUT CONTINUED TO TRAVEL OVER THE ROOF OF HIS CAR AS HE WAS TRAVELING IN EXCESS OF 90 MPH.

THE MARCH 1973 ISSUE OF STRESS CRACKS HAD A REQUEST FOR INFORMATION ON DISTRIBUTOR MODIFICATIONS. IT IS NOT NECESSARY TO CHANGE SPRINGS ON THE MECHANISM, ALTHOUGH THAT IS THE BEST METHOD. TRY BENDING THE TABS THAT ANCHOR THE SPRINGS. SHORTENING THE DISTANCE BETWEEN THE TWO TABS RETAINING A SPRING WEAKENS RESISTANCE, THEREBY SPEEDING THE RATE OF ADVANCE. A GOOD SUN DISTRIBUTOR MACHINE CAN HELP YOU CALIBRATE THE DISTRIBUTOR; ALSO CHECK FOR WORN LOBES ON THE DISTRIBUTOR CAM WHILE YOU'RE AT IT.

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ENGINE

ELAN OWNERS WHO HAVE REPEATEDLY REPLACED THEIR STARTER PINION GEAR, MIGHT TRY ROTATING THE STARTER 180°, THUS CHANGING A POSSIBLE MISALIGNMENT WITH THE FLYWHEEL. SEVERAL INDIVIDUALS HAVE REPORTED SUCCESS WITH THIS OPERATION. IF THIS FAILS, THE ENTIRE STARTER MAY HAVE TO BE REPLACED. ANOTHER CAUSE OF THIS TYPE OF FAILURE IS IMPROPER ENGINE TIMING. TOO MUCH ADVANCE CAN RESULT IN KICK BACK WHEN STARTING AND IN TURN DAMAGE THE PINION BEFORE IT CLEARS THE FLYWHEEL.

WHEN REPLACING THE PINION GEAR, IT IS POSSIBLE TO COMPRESS THE LARGE RETAINING SPRING BY USING TWO OR THREE VICE-GRIPS AROUND THE EDGE OF THE SPRING, BEING CAREFUL TO STAY CLEAR OF THE END IN CASE THE VICE-GRIPS SLIP.

WHEN SERVICING YOUR DISTRIBUTOR, BE SURE TO PLACE ONE OR TWO DROPS OF OIL NEXT TO THE SCREW, UNDER THE ROTOR. THIS LUBRICATES THE SPINDLE AND INSIDE PORTION OF THE CAM. BY NEGLECTING THIS OPERATION, THE RESULTING CORROSION CAN STOP THE FUNCTIONING OF THE CENTRIFUGAL ADVANCE, A FAILURE WHICH OCCURRED TO MY ELAN.

A CAUSE OF BACKFIRING--ELAN OWNERS HAVE A SEEMINGLY UNIQUE WAY TO PRODUCE BACKFIRING UPON THROTTLE CLOSURE. IF THERE ARE ANY CRACKS IN THE CONNECTORS OR TUBING RUNNING FROM THE #1 CYLINDER INLET TRACT TO THE HEADLIGHT VACUUM BOX, THE VACUUM PRODUCED IN THE INLET WHEN THE THROTTLE IS CLOSED WILL SUCK IN AIR AND PRODUCE A BACKFIRING CONDITION. BACKFIRING IN THE EXHAUST MANIFOLD IS CAUSED BY AN EXCESSIVELY LEAN MIXTURE AND BACKFIRING IN THE CARBURETOR IS CAUSED BY AN OVERLY RICH MIXTURE.

THE OIL PUMP ON THE ELAN HAS UNDERGONE VARIOUS CHANGES AND THOSE WHO WISH THE LATEST UNIT CAN BOLT ON THE CURRENT PINTO 1600 ITEM. THIS PUMP HAS A CONSIDERABLE IMPROVEMENT IN VOLUME OUTPUT OVER THE EARLY PRE 1967 ELANS, WITH THE ADVANTAGE OF A MODERN SPIN ON FILTER WHICH IS READILY AVAILABLE, BEING A STANDARD FORD PART. OCCASSIONALLY LOW OIL PRESSURE ON EARLY CARS RESULTS FROM THE INADEQUATE PUMP, NOT FROM WORN BEARINGS. OIL PRESSURE ON MY 1965 ELAN WENT FROM 0 PSI AT IDLE TO 20 LBS. AFTER INSTALLING THIS ITEM.

ON SOME CARS THE PUMP IS EASILY REPLACED BUT YOU MAY HAVE TROUBLE BECAUSE OF THE PUMP'S PROXIMITY TO THE FRAME. IF SO, DISCONNECTING THE ENGINE MOUNT ON THAT SIDE AND JACKING UP THE ENGINE SLIGHTLY BY PLACING THE JACK UNDER THE PAN SHOULD PROVIDE ENOUGH CLEARANCE TO DO THE JOB. THE PUMP IS AVAILABLE AT YOUR LOCAL FORD DEALER FOR ABOUT \$20.

ANYONE WISHING TO UNSCREW THE HEATER CONTROL VALVE FROM HIS TWIN-CAM, SHOULD PROCEED WITH EXTREME CAUTION. THE CONTROL VALVE IS ALUMINUM AND AFTER SEVERAL YEARS OF CORROSION, THE BOND BETWEEN THE VALVE AND HEAD IS ALMOST UNBREAKABLE. SEVERAL CLUB MEMBERS (INCLUDING MYSELF) HAVE BROKEN THE VALVE INLET STEM TRYING TO REMOVE THIS UNIT. SUBSEQUENT ATTEMPTS WITH AN EASY-OUT HAVE FAILED TO REMOVE THE STUB, LEAVING DRILLING AND RETAPING AS THE ONLY WAY OUT! IF THE VALVE IS THE ONLY ITEM WHICH NEEDS REPLACING (I.E. THERE IS ONLY MINOR CORROSION OF THE VALVE BODY) THE INTERNAL PORTION CAN BE REPLACED BY BENDING BACK THE TABS HOLDING THE ASSEMBLY TOGETHER AND REPLACING ONLY THE INTERNAL PARTS. THEREFORE AVOIDING THE HASSLE OF UNSCREWING THE ASSEMBLY FROM THE HEAD.