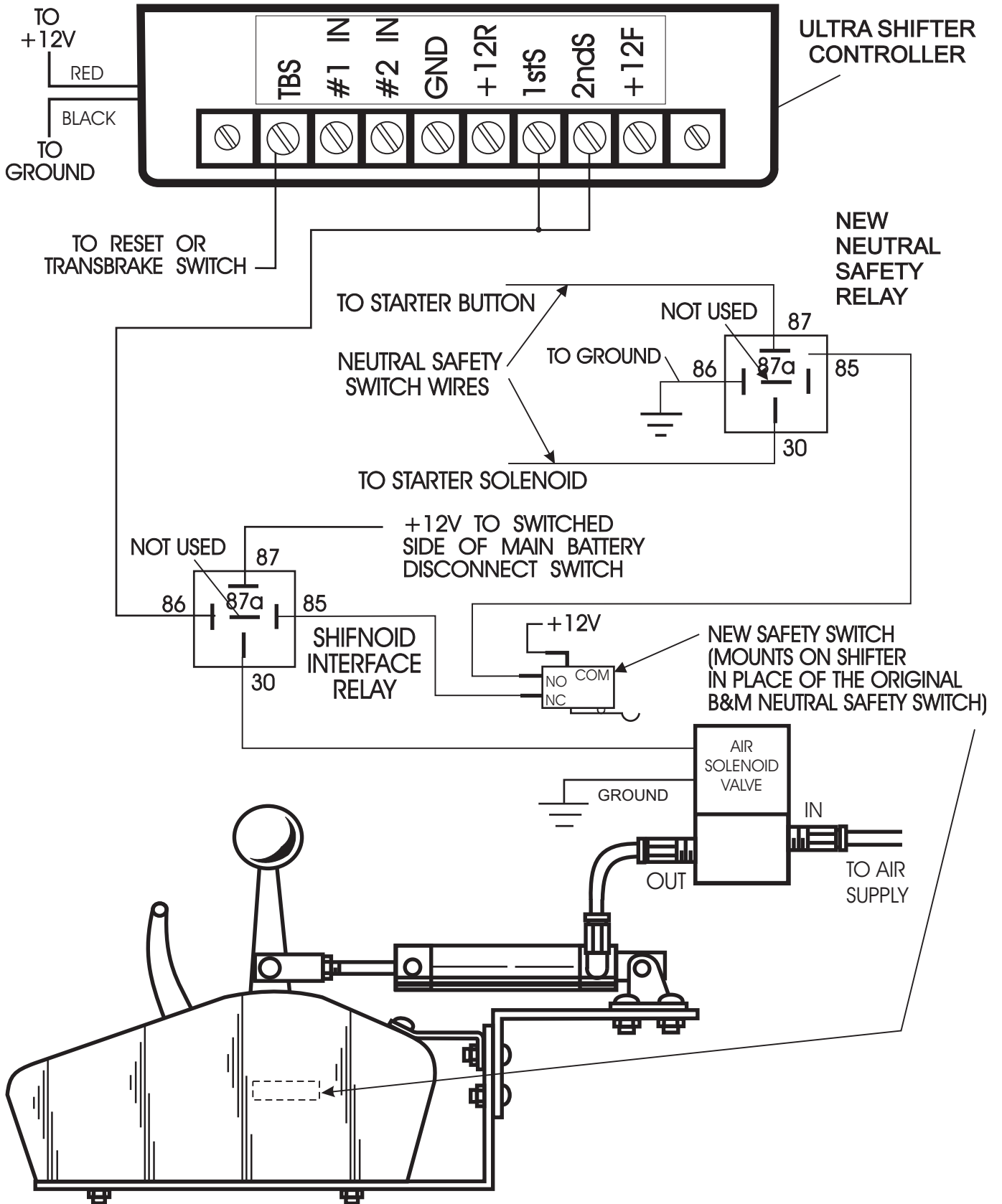


SHIFNOID WIRING DIAGRAM

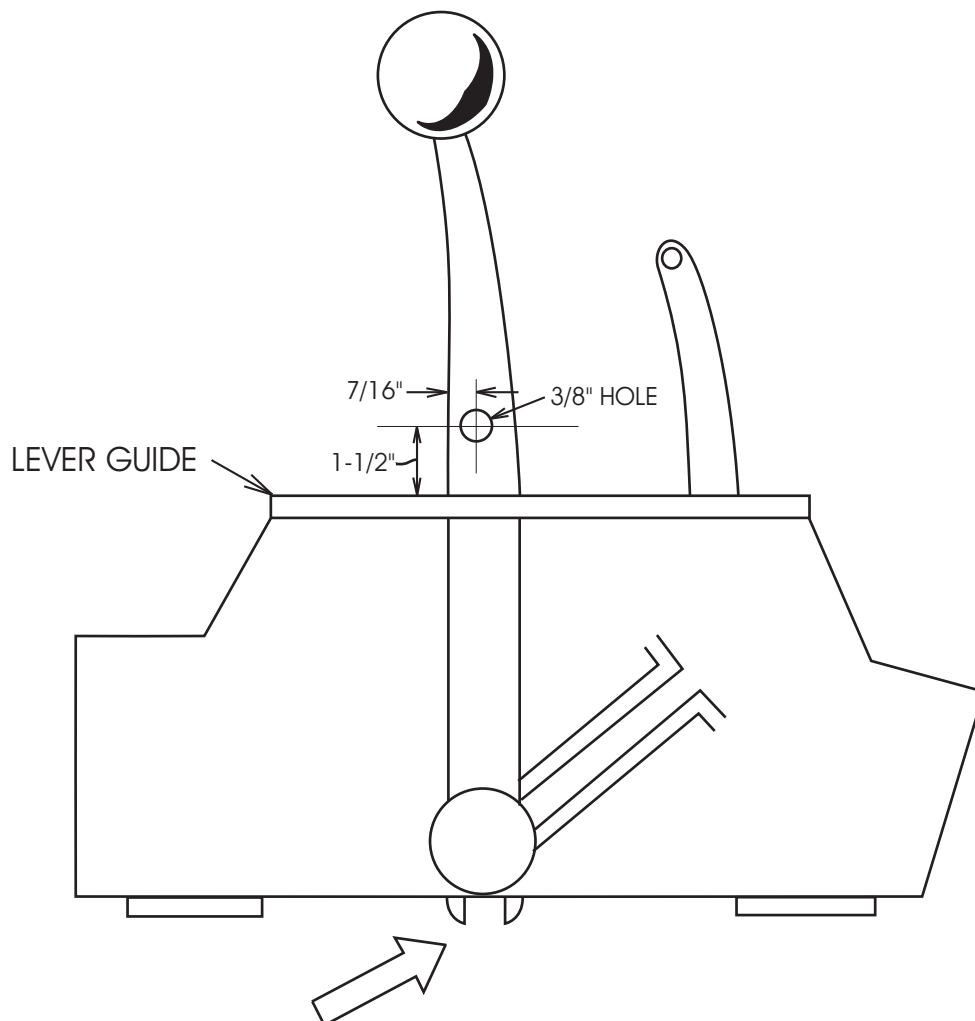
FOR a B&M PRO RATCHET with SA4075 AIR CONTROL
THREE SPEED FORWARD PATTERN



MODIFYING YOUR "B&M" 80842 PRO RATCHET SHIFTER TO INSTALL SHIFNOID SA 4070 OR SA 4075 SHIFT KIT

Drill a $\frac{3}{8}$ " to $\frac{7}{16}$ " hole, $\frac{7}{16}$ " from the back edge of the shifter lever, $1\frac{1}{2}$ " above the lever guide as shown. This hole is oversize to allow for an arc accommodation. The correct placement of this hole is critical to the operation of the cylinder. Please be precise. Dimensions shown are with cover removed. It is recommended you center punch the correct spot and start with a small drill bit and work up to the final size.

The handle of the shifter extends below the base of the shifter housing. It is common to have the chrome handle rub against the SHIFNOID base plate. This is only noticeable when you shift the shifter lever toward the front or rear. Before installing the shifter, please check for this condition. If it exists, sand or grind a small amount off of the shifter lever so that it clears the SHIFNOID base plate when the shifter is in ALL positions. Depending on when you bought your shifter, this step may not be necessary.



INSTALLATION INSTRUCTIONS

“SHIFNOID” AUTO SHIFTER

PART # SA4075

FOR STANDARD, FORWARD PATTERN 3 SPEED TRANSMISSIONS
USING A “B&M” PRO RATCHET™ SHIFTER # 80842

STANDARD PARTS INCLUDED:

- | | |
|------------------------------|----------------------------|
| 1 - CYLINDER & VALVE | 2 - MOUNTING BRACKETS |
| 1 - SAFETY SWITCH | 3 - QUICK CONNECT FITTINGS |
| 1 - CYLINDER MOUNTING CLEVIS | 1 - LEVER MOUNTING CLEVIS |
| 1 - AIR LINE KIT | 2 - RELAYS |
| 1 - ULTRA SHIFTER CONTROLLER | |

MODIFYING YOUR “B&M” SHIFTER

When installing this unit on your “B&M Pro Ratchet”, the shifter has to be modified according to the Modifying Diagram provided. This consists of drilling a 3/8” to 7/16” hole in the shifter lever 1 1/2” above the lever guide and 7/16” from the back edge of the lever. The handle of the shifter extends below the base of the shifter housing. It is common to have the chrome handle rub against the SHIFNOID bracket. This is only noticeable when you shift the shifter lever toward the front or rear. Before installing this kit, please check for this condition. If it exists, sand or grind a small amount off of the shifter lever so that it clears the SHIFNOID bracket when the shifter lever is in ALL positions.

MOUNTING THE UNIT

The SHIFNOID mounting bracket is drilled for the “B&M Pro Ratchet three and four speed shifters only. The holes in the bottom of the Z shaped bracket align with the holes in the right side of the shifter. Mount the Z shaped bracket between the shifter and floor or mounting surface, with the bolts supplied with your shifter. Do not bolt down the left side. Stop at this point to wire the switches that go under the aluminum cover. Remove the original B&M neutral safety switch and replace it with the SHIFNOID safety switch supplied. Wire per the attached diagram. (SEE WIRING INSTRUCTIONS, NEXT PAGE) After wiring, install the shifter cover supplied with your shifter with the front screw only. Attach the small support bracket to the main bracket with the bolt and nut supplied. Bolt the other end of this support bracket to the hole in the rear of cover and attach with the bolt supplied with your shifter. Attach the cylinder to the hole in the shifter handle with the clevis supplied.

PLUMBING

Follow the supplied diagram for your air lines. Check all fittings for leaks before finalizing your installation. Connect the air line from your regulator to the “IN” or #1 port on the air solenoid valve. Your incoming air / CO2 pressure should be set between 60 and 100 lbs. The lowest working pressure will save the most air / CO2. Increase pressure as needed to compensate for any hard shifting situations, but do not exceed 125 lbs. Connect the “OUT” or #2 port on the air solenoid valve to the front port on the cylinder.

WIRING THE UNIT WARNING

Do not connect the solenoid unit directly to an RPM switch. You must use the included components and wiring method.

This unit **MUST** only be activated with a manual push button or an RPM activated device that will shut the unit off after the final intended shift. This is achieved by the use of a Normally Open, push button switch, connected to GROUND and post 86 on the SHIFNOID interface relay or by using the Ultra Shifter Controller enclosed. You will need to add your RPM switch(s) to the Ultra Shifter Controller. Use of a regular RPM switch alone will cause the unit to activate every time your engine RPM climbs to the preset point, possibly causing the unit to shift the shifter into neutral when not intended.

Follow the wiring diagram supplied with this unit and the diagram with your RPM switch so that the RPM switch supplies a normally open ground to the Ultra Shifter Controller supplied. If you are using a single RPM switch, connect the NORMALLY OPEN GROUND supplied by your RPM switch to the #2 IN terminal. Connect the required 12 volt source wire to your RPM switch to the +12R terminal and the required GROUND wire to your RPM switch to the GND terminal. You must also connect the RPM switch required connection to your ignition system as directed by the RPM switch manufacturer. (Typically to the tach output of your ignition system or to the negative side of your coil). If you are using two RPM switches, to shift at two different RPM settings, wire the second RPM switch the same as the first EXCEPT the NORMALLY OPEN GROUND supplied by your second RPM switch connects to the #1 IN terminal. Wire the balance of the Ultra Shifter Controller as shown. The unit is now set up to allow two shifts and then shut off. To reset the Ultra Shifter Controller for the next run, push the transbrake button on your car. This will allow the controller to activate two more times.

There is a new safety switch supplied with this unit. Always use the new safety switch and the relays. Install this switch in place of the original B&M neutral safety switch and wire according to the diagram. This switch must be used so the shifter cannot be activated while in Park or Neutral. If not wired correctly an unintentional shift could result causing damage or injury. The switch must be correctly adjusted before you install your aluminum cover. The switch must make and brake contact as the shifter moves between Park and Neutral and any Forward or Reverse gear. Do not over tighten the switch.

QUESTIONS ?

If you have questions or concerns on the installation or use of this product, do NOT contact the retailer you purchased the kit from. Most retailers are not equipped to help you with in-depth tech questions. SHIFNOID LTD. has arranged for all tech and warranty to be handled by it's distributor:

CONTENDER PERFORMANCE PRODUCTS INC.

Phone: 740-927-0060

www.contenderperformance.com

SA4075

The SHIFNOID SA4075 Shift Kit is a CO2 powered shift kit for the B&M Pro Ratchet 3 Speed shifter only. It is designed to work with a standard, forward pattern 3 speed transmission but can be converted to a reverse pattern 3 or 4 speed.

This kit includes a NC5300 Ultra Shifter Controller that is activated by one or two RPM activated switches. One RPM activated is needed if you want to make both shifts at the same RPM setting. Two RPM activated switches are needed if you want to make the two shifts at different RPM levels.

THE RPM SWITCH(S) COMPATIBLE WITH THE ULTRA SHIFTER CONTROLLER MUST SUPPLY A GROUND SIGNAL. TYPICALLY THIS INCLUDES BRANDS SUCH AS SHIFNOID, MSD, MALLORY and AUTOMETER.

BRANDS NORMALLY NOT COMPATIBLE INCLUDE DIGITAL DELAY, BIONDO and DEDENBEAR. PLEASE VERIFY YOUR RPM SWITCHES ARE CORRECT BEFORE INSTALLATION.

Please contact SHIFNOID technical department for assistance.

SHIFNOID LTD. has arranged for all it's technical assistance to be provided by:
Contender Performance Products Inc. 740-927-0060 or
www.contenderperformance.com