

MAGNETO MODIFICATION

BENDIX S-20, S-200 SERIES

GENERATION 3 IGNITION



BENDIX S-20, S-200 SERIES MAGNETO MODIFICATIONS:

This section covers the most common modifications for Bendix S-20, S-200 series magnetos. The main factor to keep in mind is the location of the coil terminal stud. Prevent any chance of the terminal grounding out on/in the magneto housing and/or other magneto components. Keep all wires clear of any rotating parts and where there is any chance of wire chafing. The following modification examples are performed off the aircraft. A qualified technician familiar with aircraft ignition systems should do this modification. Follow the modification procedures for your specific magneto application.

BENDIX S-20, S-200 SERIES MODIFICATION:

This section covers the most common modification examples for the installation of the ignition coil driver stud into the magneto contact points cover. These will usually not require coil lead wire to be lengthened or modified. **Example 1:** Top cover side modification. **Example 2:** Top cover retard cavity location. The main factor to keep in mind is to locate the coil terminal stud and connections away from any chance of grounding out on/in the magneto housing and/or other magneto components. Keep all wires clear of any rotating parts and where there is a chance of wire chafing. This is the most typical Bendix S-20, S-200 series modifications performed off the aircraft. A qualified technician familiar with aircraft ignition systems should do this modification. Follow the modification procedures for your specific magneto application

EXAMPLE 1: Cover Side location

1. Remove the contact cover to gain access to the coil lead that is connected to the contact points. Remove both leads from the contacts. (Image 1a, 2a)



Image 1a



Image 2a

2. The coil lead is long enough to re-locate to the specified terminal location on the cover without any splicing. **Note:** *If the coil lead pigtail is too short to reach the new coil terminal stud location. Splice the coil lead with 18 awg tefzel or similar wire. Crimp/solder and insulate with heat-shrink.* (Image 3a)



Image 3a

3. The gray area shown is the boundaries and is offset to the left for drilling the terminal hole to avoid spade terminal interference inside the cover. The coil terminal stud location is measured from the base of the cover. This distance is .375" to .875". From left screw casting edge measures .250" to .375". **Note:** This is offset to the left. NOT centered between screw casting edges. This is a must for internal spade terminal clearance. Drill a hole sized to .250" to accept the step washers and hardware. (Image 4a, 5a)



Image 4a



Image 5a

4. The hardware is layout in order for the ignition coil terminal stud into the contact covers side. The male spade stud terminal will need to be bent to a 90° angle. (Image 6a, 7a)



Image 6a



Image 7a

5. Coil terminal stud installed with male flag terminal. **Note:** Between the two insulating shoulder washers at the housing place a small amount of two-part epoxy for extra rotation resistance on the coil terminal stud. Tighten to 20 – 25 in.-lbs. (Image 8a, 9a)



Image 8a



Image 9a

6. Connect the coil lead to the new installed spade terminal and capacitor to the contact set. Route the coil lead away from the point's cam and any moving parts to prevent interference chafing. **Note:** Sometimes a small wire anchor can be used in a spare tapped hole to help retain and route the coil wire if there is concern. **Note:** Clean magneto housing of all drill chips and any type of contamination with compressed air before reassembly. Double check and close up, torque contact breaker cover screws 20 – 25 in.-lbs, ready to install. (Image 9a, 10a, 11a)



Image 10a



Image 11a

EXAMPLE 2: Cover Retard Cavity location/ Tall rear cover

1. This hardware is laid out in order to use the existing retard cavity in the in the points breaker cover for the coil access. The male spade stud terminal will need to be bent to a 90° angle. (Image 1b)

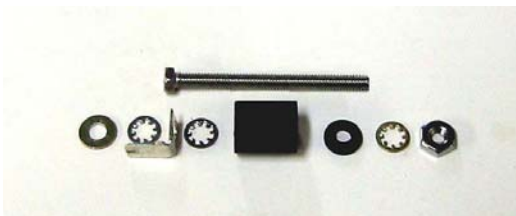


Image 1b

2. Prior to installing the hardware through the retard cavity, place a small amount of non-conductive two-part epoxy (JB weld or similar) can be placed in the cavity where the bushing top edge/side is slid into the cover to prevent rotation. On the top of the cover install the step washer, internal star washer, and nut. Tighten to 20 – 25 in.-lbs. (Image 2b, 3b)



Image 2b



Image 3b

3. Connect the coil lead to the new installed spade terminal and capacitor to the contact set. Route the coil lead behind the capacitor lead and away from the points cam and any moving parts to prevent interference chafing. **Note:** Sometimes a small wire anchor can be used in a spare tapped hole to help retain and route the coil wire if there is concern. **Note:** Clean magneto housing of all drill chips and any type of contamination with compressed air before reassembly. Double check and close up, torque contact breaker cover screws 20 – 25 in.-lbs, ready to install. (Image 4b, 5b)



Image 4b



Image 5b

EXAMPLE 2a: Cover Retard Cavity Location/ Short rear cover

1. This is another example of the location of the original retard stud terminal. If not already in use, this is a good place for access. Remove the top cover to gain access to the coil lead that is connected to the contact points. Drill a hole sized to .250" in this location to accept the step washers and coil stud hardware. (Image 1c)

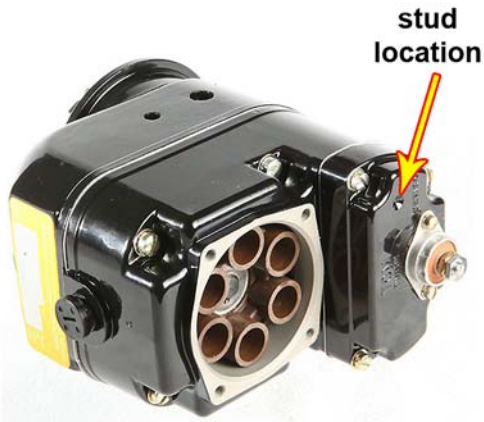


Image 1c



Image 2c

2. The hardware is layout in order for this ignition coil terminal stud into the rear contact cover. The male spade stud terminal will need to be bent to a 60° to 90° angle to accommodate. (Image 6a, 7a)



Image 6a



Image 7a

