

KOEHLER KORNER

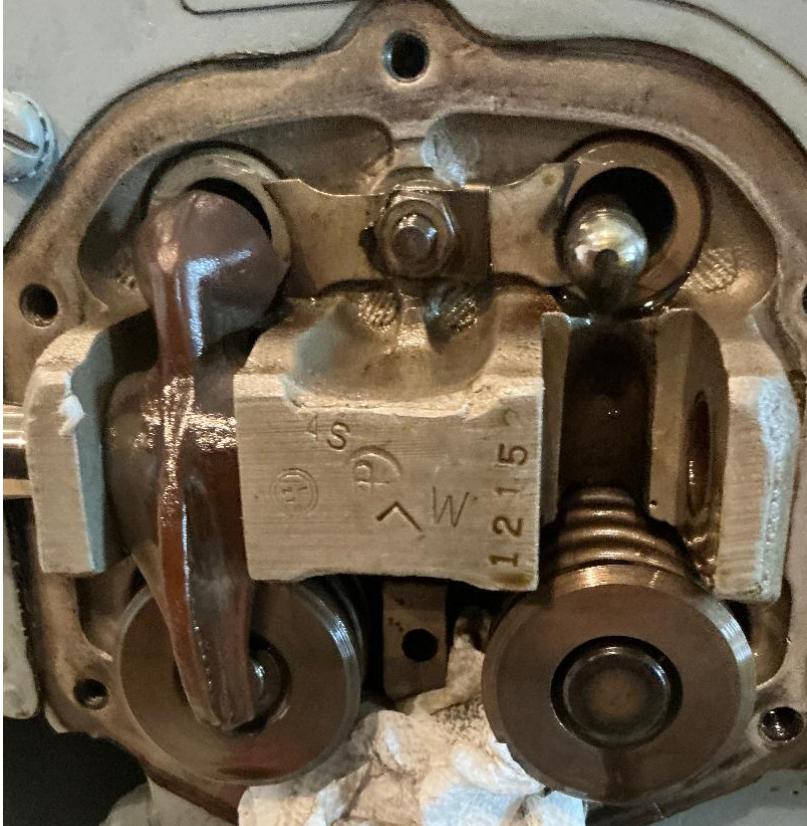
I had a great time at Oshkosh this year, teaching a SportAir Electricity Workshop on Monday and Tuesday and working the Composites 101 course on the preceding Sunday doing set-up (making 750 urethane blanks and cutting 1500 squares of fiberglass) and supporting the presentations for the rest of the week. This was one of the nicest AirVentures with almost perfect weather. Nearly 750 thousand people-days resulted, a record for attendance.

We finished with the Sunday morning 0830 Composites class and headed down to Fon du Lac to load the plane and head home. I had Bill Posnett and Dave Baden from the Pax River area in southern Maryland with me. With 50 gallons of gas and our week's-worth of clothes, we were just below max gross for my little Mooney. Also, it was hot and humid. We staggered into the air and flew the FAA mandated route around Chicago enroute to Findlay Ohio (KFDY). The temperature at 6,000' was 26°C and with the heavily loaded plane the Lycoming O-360 (180hp) was working hard, with cylinder head temperatures around 400°F and #2 cylinder at 430°F. The oil cooler is directly below the #2 cylinder and interferes with its cooling. Oil temp was reading 215°F.

At 3.3 hours we landed at KFDY, taxied into the fuel stand and looked forward to one of their hot dogs offered to Oshkosh travelers. As I got out of the plane the lineman asked if my engine usually leaked that much oil upon shutdown. To my horror I found an expanding six inch puddle of oil on the ramp with a near steady stream of oil coming from the front left side of the cowl. Unfortunately, I forgot to take any pictures. We did remove the side cowl and examine the engine. The #2 cylinder exhaust pushrod shroud tube was broken in half, so all the cooling oil that normally lubricated and cooled the exhaust valve on #2 was bilging overboard. The left side of the engine, left fuselage side and entire belly were coated with oil. It turned out that I was only missing about a pint of oil, but that much can make a huge mess on the plane. Here is a view of the broken shroud tube:



To remove the broken shroud tube you have to remove the valve cover, set the piston to top-dead-center to unload both valves, enabling the shaft for the rocker arms to be shifted and the right rocker removed as shown here:



The pushrod (upper right of the photo) is removed and the nut in the middle of the bowtie shaped spring that holds both shroud tubes in place is removed, after tapping the locking clip away from the left side of the nut. With the bowtie spring clip out of the way, the shroud tube is removed through the top of the cylinder.

Now I had to track down the replacement parts. Obviously I needed a shroud tube, and it is usually necessary to replace the pushrod which is often bent. These parts are about \$45 and \$23 from Aircraft Spruce. The clips are about \$5 together, so for about \$75 I could replace all the parts. Remember, however, that it was Sunday and no supply shops were open. We spent the night in a motel, and Monday I called the nearest two parts shops and neither had the needed parts. Also, Dave had to get back to work. I called the guys at Aero Engines at Winchester VA and they had the parts in stock so, we rented a car and drove back to the Pax River area via Winchester VA, arriving about 8 pm. Bill and I had a bowl of soup and left at 5am to drive back to the plane, which took about 8 hours. These are the parts:



The two broken pieces are the old shroud tube and the new one is on the right. The piece of safety wire is to remove the hydraulic units from the tappet valves so that you can wash the oil out of them making them “dry” to get the dry tappet clearance of .028 to .080” for most Lycomings. We have reviewed this in past KKS, so I won’t redo it here. Remember that the pushrods come in various lengths to adjust that clearance within limits. Here is an example of the shortest pushrod used in the Lycoming O-360:



The part number is 73434. Next longer is 73435, etc. There is a more modern Lycoming part number, but it is followed with -34 or -35, etc. in a similar manner as the old numbers.

We reassembled the plane in about an hour and then could not fly home on Tuesday because the Canadian smoke and weather had the St. Mary’s airport (2W6) below minimums! We had another night at the motel and off on Wednesday for a smooth flight behind all the weather in significantly cooler air. We picked up a nice tailwind and doing over 160 knots ground speed, arrived at 2W6 in 2.6 hours. I refueled and flew nonstop to home in Spruce Creek (7FL6) in 4.6 hours. A very uneventful flight, finally finishing my Oshkosh odyssey after 12 days, 23.5 flight hours, and 19 hours of rental car driving (in two days)!

I hope this little story was entertaining and a bit educational. Remember the old saw,
“time to spare, go by air”.

Keep building, flying, and maintaining.

Dick

08/2026