



## **DODGE 45/545/68RFE** **LUBE CIRCUIT AND PUMP CASTING DESIGN CHANGES**

The 45RFE has gone thru many changes since it was introduced in 1999. The Pump has had a few changes that pertain to the To Cooler/Lube circuit that can cause some overheating and or planetary failure conditions, if parts are mis-matched. The following pages will show these changes, that happened in the pump cover and spacer plate, how to identify, and the interchange information related to them.

- *Refer to Figure 1 to see the To Cooler Circuit Identified in the Pump Body, this circuit is where changes occurred.*
- *Refer to Figure 2 to see the To Cooler Circuit connection to the 1st Design Pump Spacer Plate. I.D.'d as the "Hatchet Hole."*
- *Refer to Figure 3 to see the 1st Design Pump Cover's connection to the To Cooler Circuit from the 1st Design Pump Spacer Plate. I.D.'d as the "Hatchet Hole," then on to the passages highlighted in grey to a .077" orifice that is drilled into the casting, which connects the To Cooler circuit to the sump.*
- *Refer to Figure 4 for external I.D. with the casting number and casting code, as well as the area in the side of the pump cover where the .077" orifice is located.*
- *Refer to Figure 5 to see the To Cooler Circuit connection to the 1st Design Pump Spacer Plate. I.D.'d as the "Hatchet Hole."*
- *Refer to Figure 6 to see the 2nd Design Pump Cover's connection to the To Cooler Circuit from the 1st Design Pump Spacer Plate. I.D.'d as the "Hatchet Hole," then on to the passages highlighted in grey to a passage that is cast shut.*
- *Refer to Figure 7 for external I.D. with the casting number and casting code, as well as the area in the side of the pump cover where the hole is cast shut.*
- *Refer to Figure 8 to see the 2nd Design Pump Spacer Plate and note the "Hatchet Hole" has been eliminated.*
- *Refer to Figure 9 to see the 3rd Design Pump Cover. There is no connection to the To Cooler Circuit as the "Hatchet Hole" is closed. The passages highlighted in grey lead to a passage that is connected to a bolt that houses a check ball and spring that leads to the sump, which has no function.*
- *Refer to Figure 10 for external I.D. with the casting number and casting code, as well as the area in the side of the pump cover where the bolt that houses a check ball and spring is located.*
- *Refer to Figure 11 for a modification of the 1st Design Pump Cover, to prevent Cooler pressure loss.*
- *Refer to Figure 12 for a breakdown on the pump assembly.*



## Technical Service Information

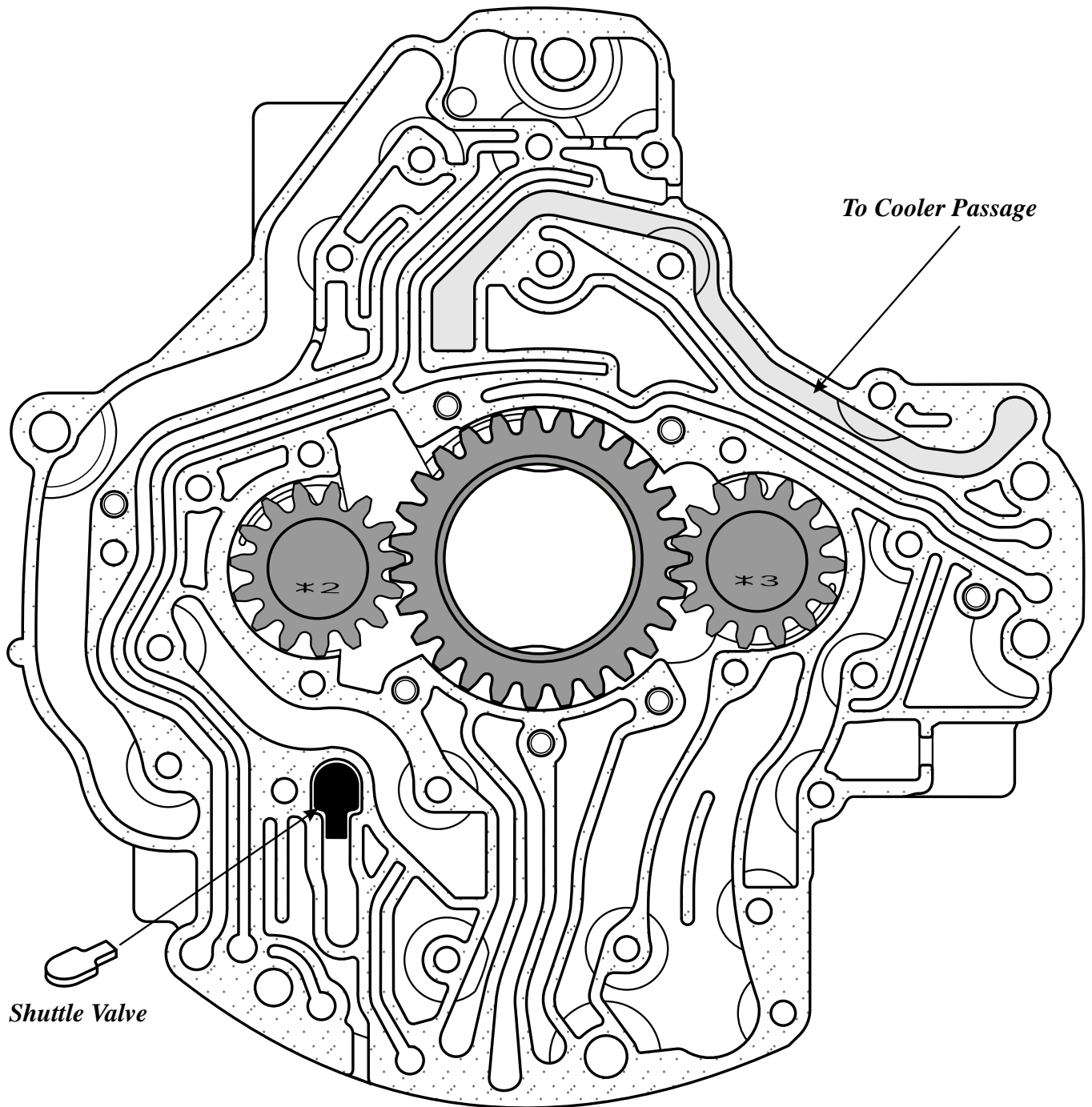
### INTERCHANGEABILITY

*1st Design Pump Plate can be used with the 1st and 2nd Design Pump Cover ONLY. If the 1st Design plate is used on the 3rd Design Pump Cover, To Cooler Pressure will be connected to a .101" orifice leading to the sump!*

*2nd Design Pump Plate can be used with the 1st and 2nd and 3rd Design Pump Cover, and is highly suggested. Note: At the time of this printing, the Pump plate is Not sold separately from the complete Pump assembly.*

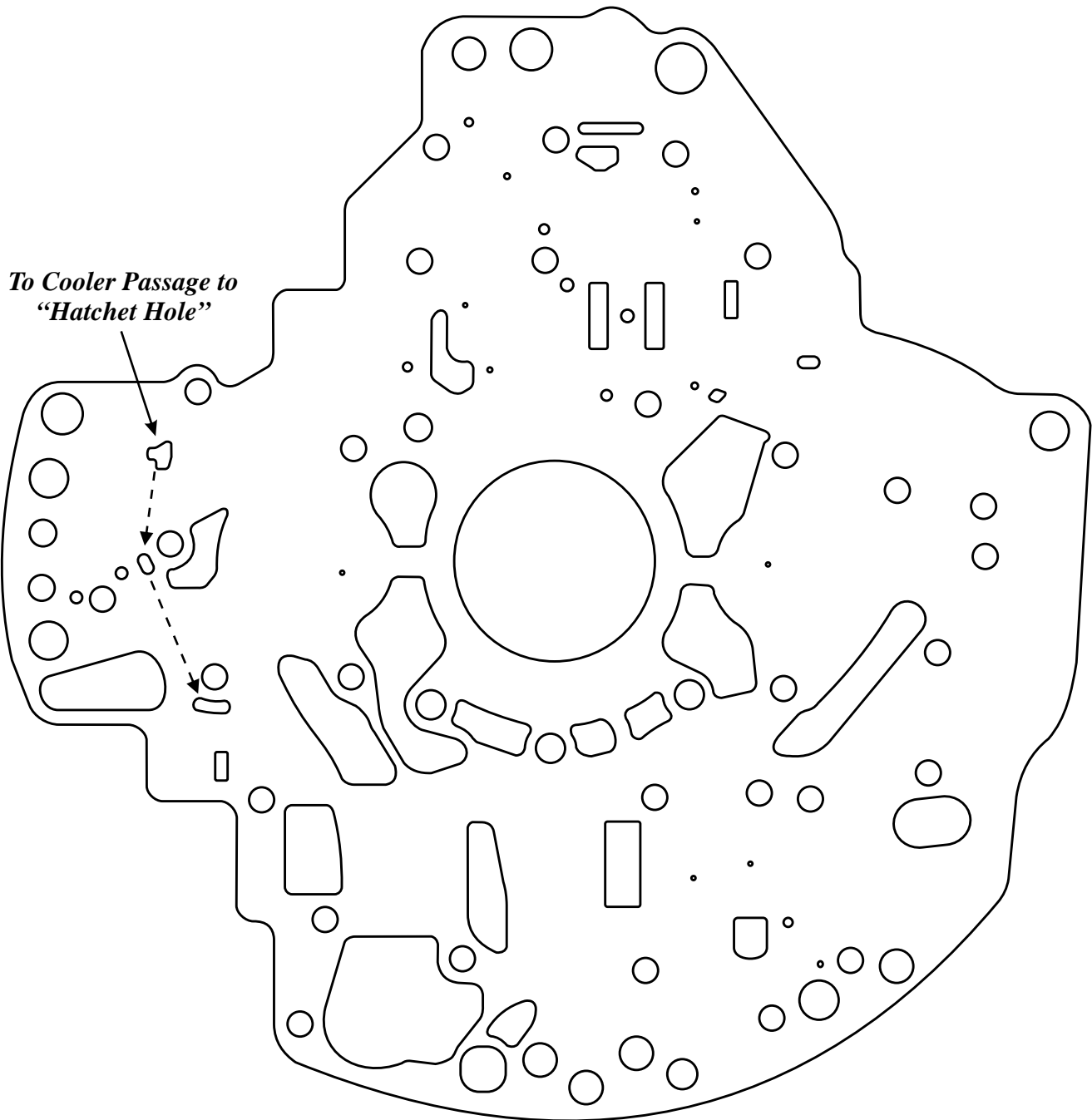
**Special Thanks to  
Mike Riley @ Transtar**

## 45/545/68RFE OIL PUMP BODY AND GEARS



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Figure 1

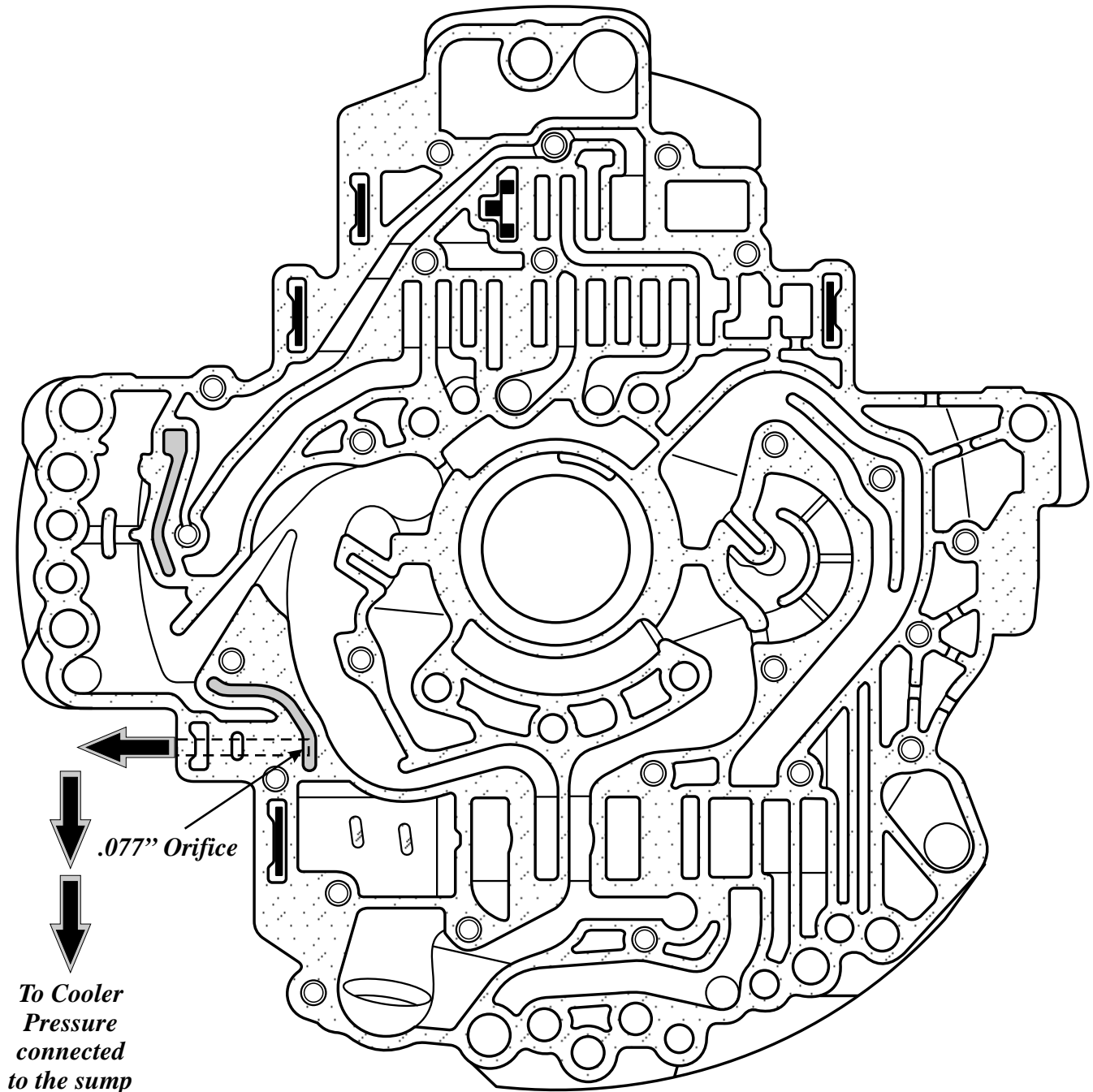
**45RFE 1st DESIGN PUMP SPACER PLATE**

*The To Cooler Passage in the Pump Body connects to the "Hatchet Hole." To cooler pressure is fed in the direction of the arrows shown above, which leads to the Pump cover.*

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Figure 2

## 45RFE 1st DESIGN PUMP COVER

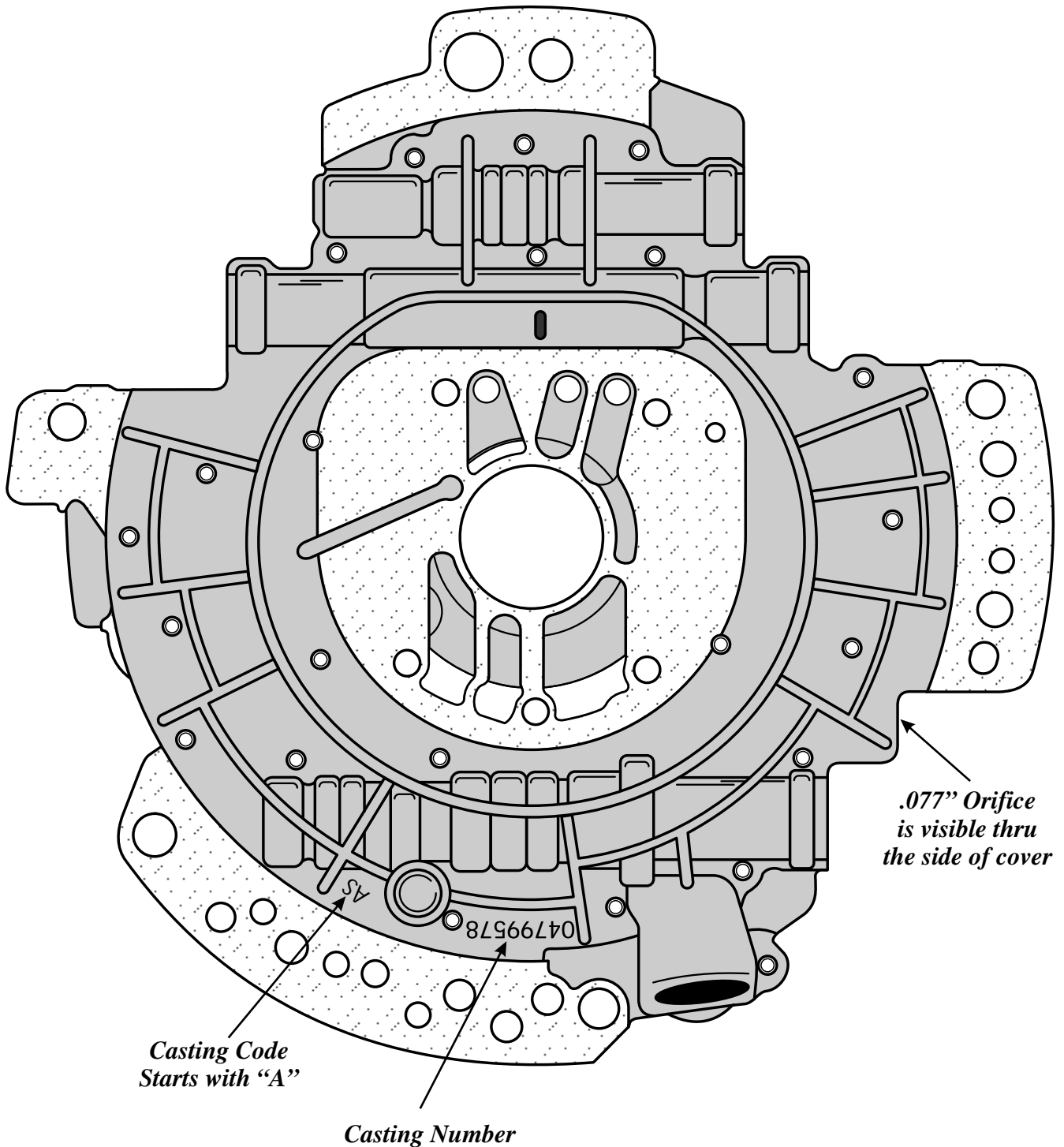


*The 1st Design Pump Plate combined with the 1st Design Pump Cover connects the To Cooler Circuit thru the "Hatchet Hole," in the Pump Plate to a .077" orifice which leads to the sump. O.E. Hydraulics show this orifice as "C2" in the oil circuit diagrams. See Figure 11 for a modification to close off the connection to the sump.*

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Figure 3

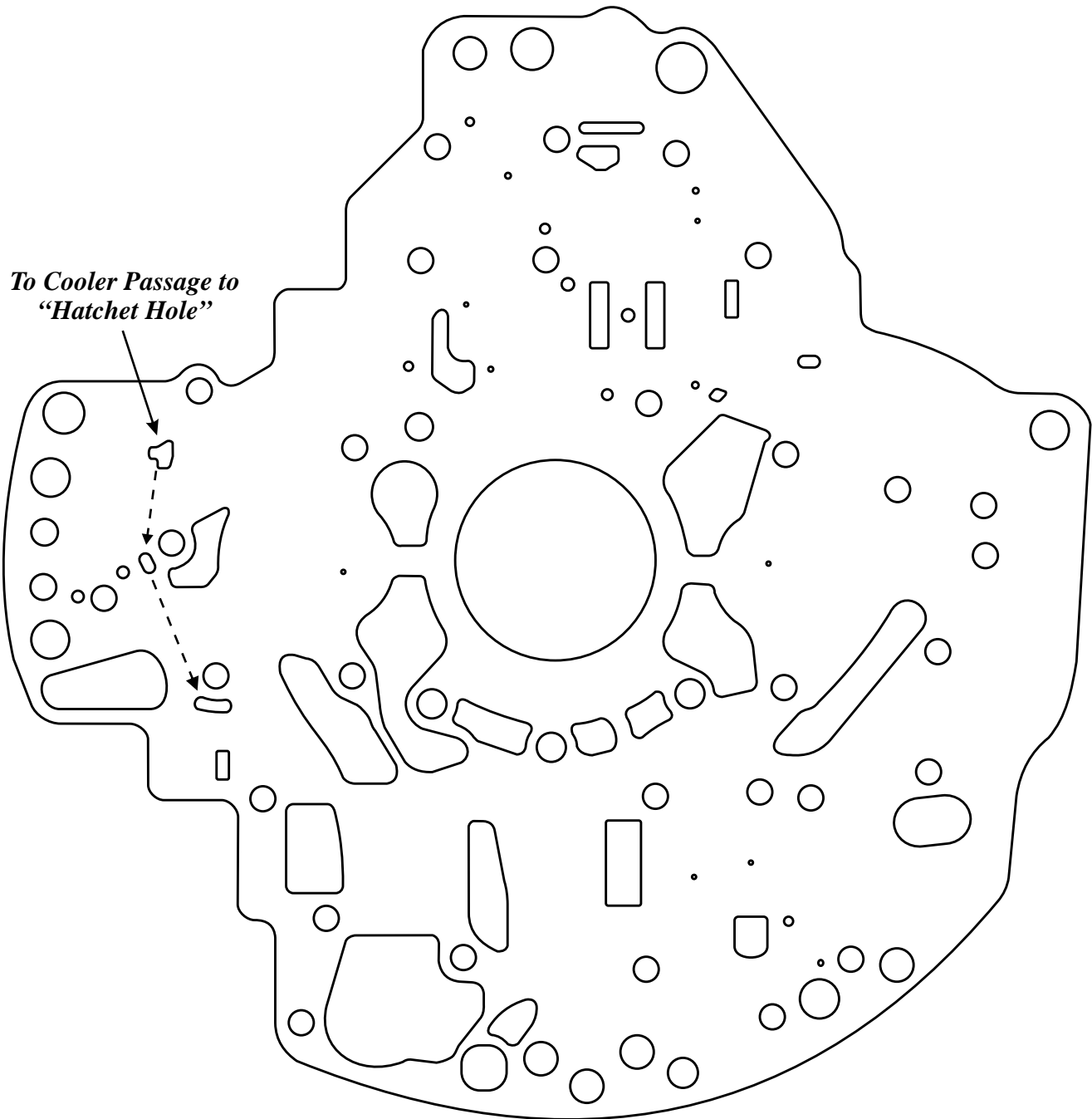
## 45RFE 1st DESIGN PUMP COVER I.D.



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Figure 4

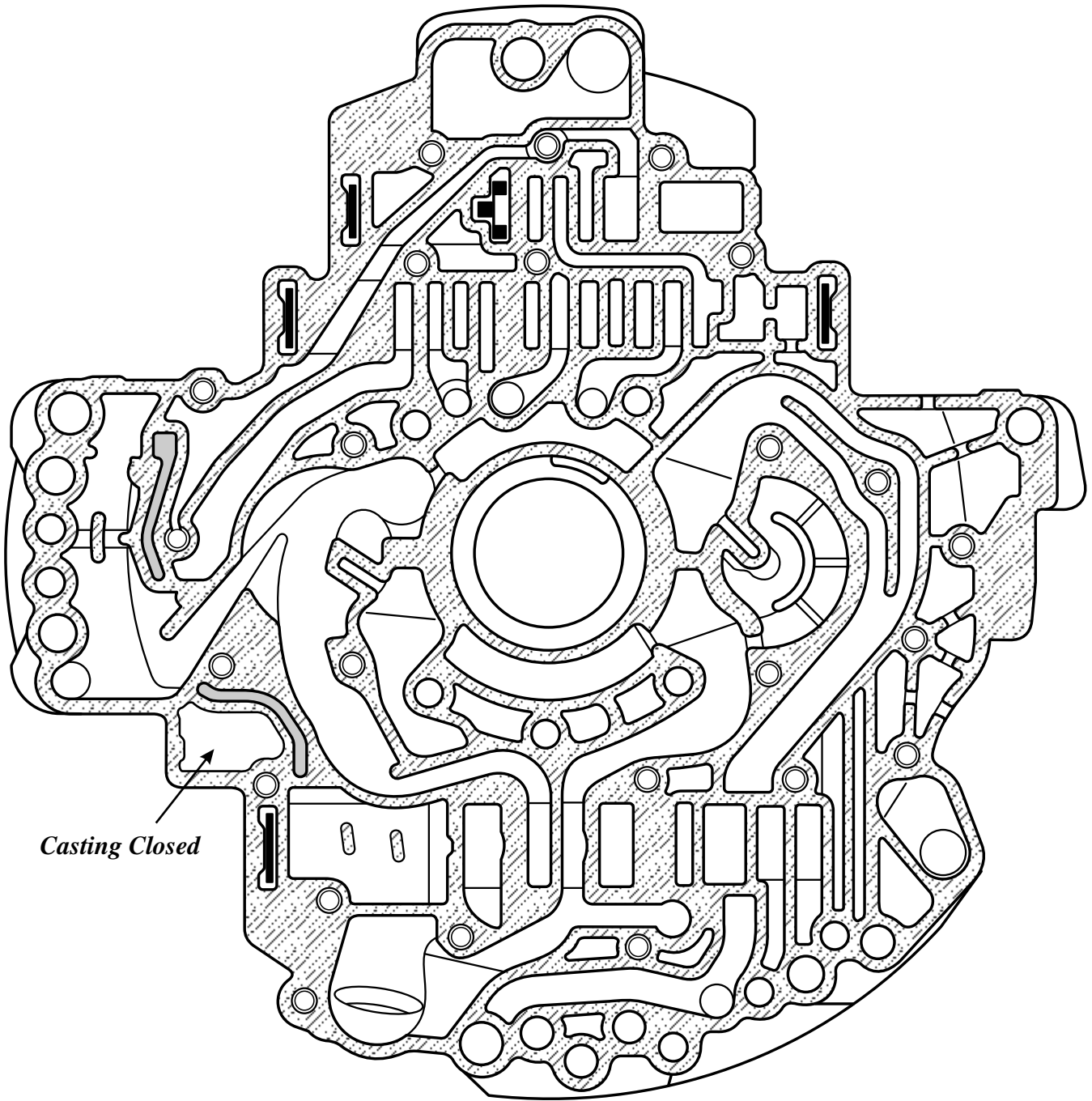
## 45RFE 1st DESIGN PUMP SPACER PLATE



*The To Cooler Passage in the Pump Body connects to the "Hatchet Hole." To cooler pressure is fed in the direction of the arrows shown above, which leads to the Pump cover.*

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Figure 5

**45RFE 2nd DESIGN PUMP COVER**

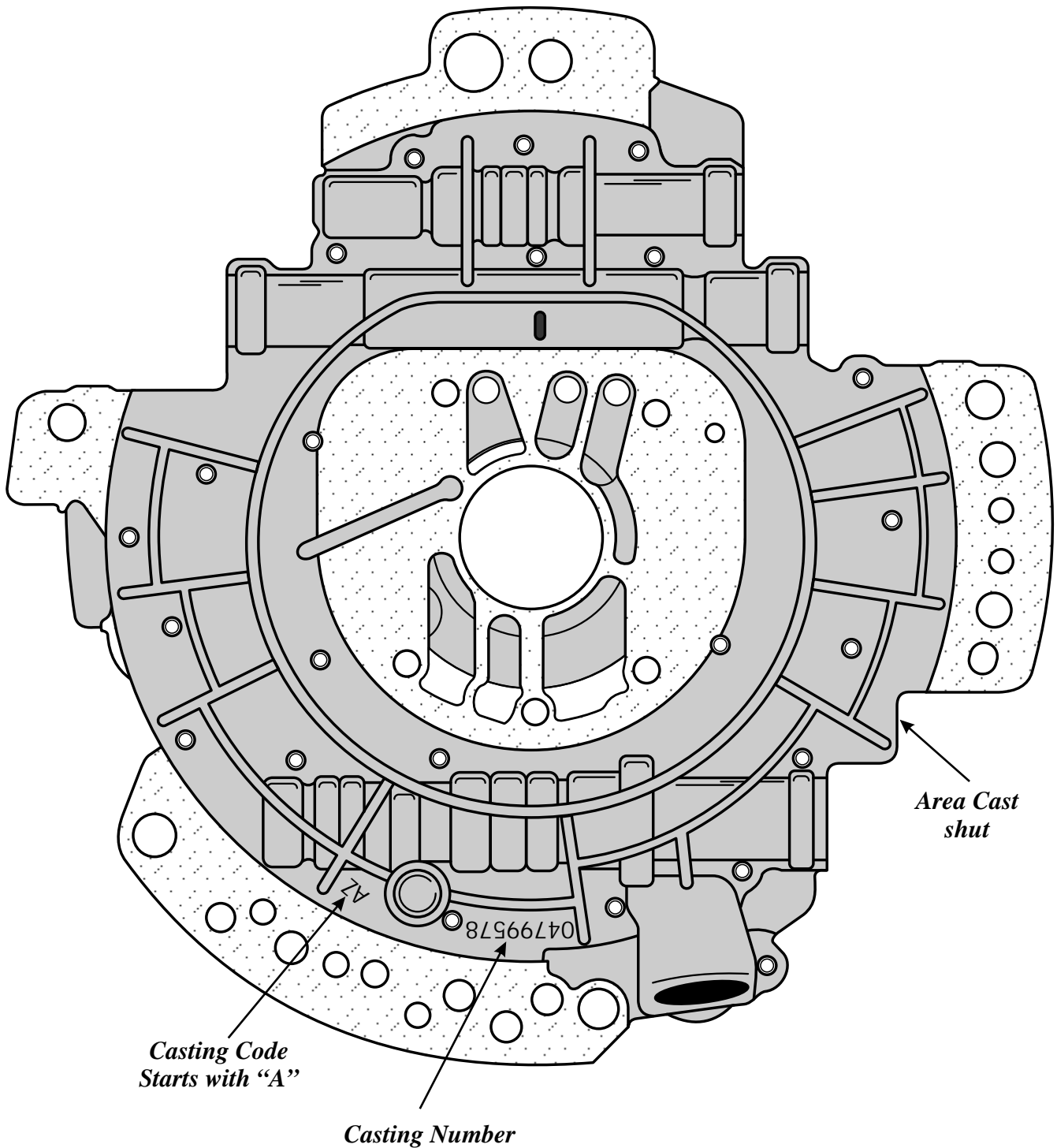
*The 1st Design Pump plate combined with the 2nd Design Pump Cover blocks the To Cooler Circuit's connection to the sump.*

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Figure 6



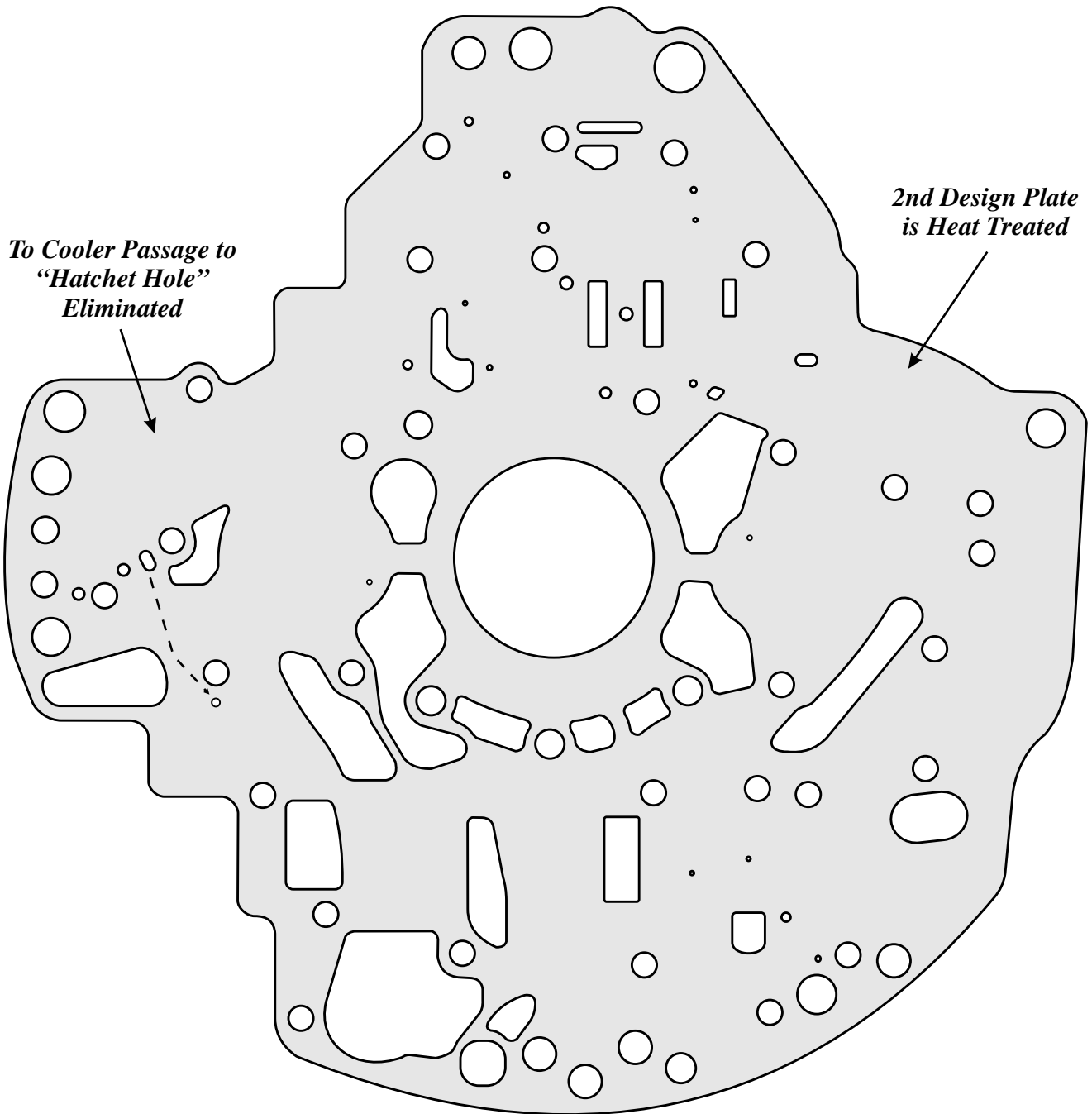
**45RFE 2nd DESIGN PUMP COVER I.D.**



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Figure 7

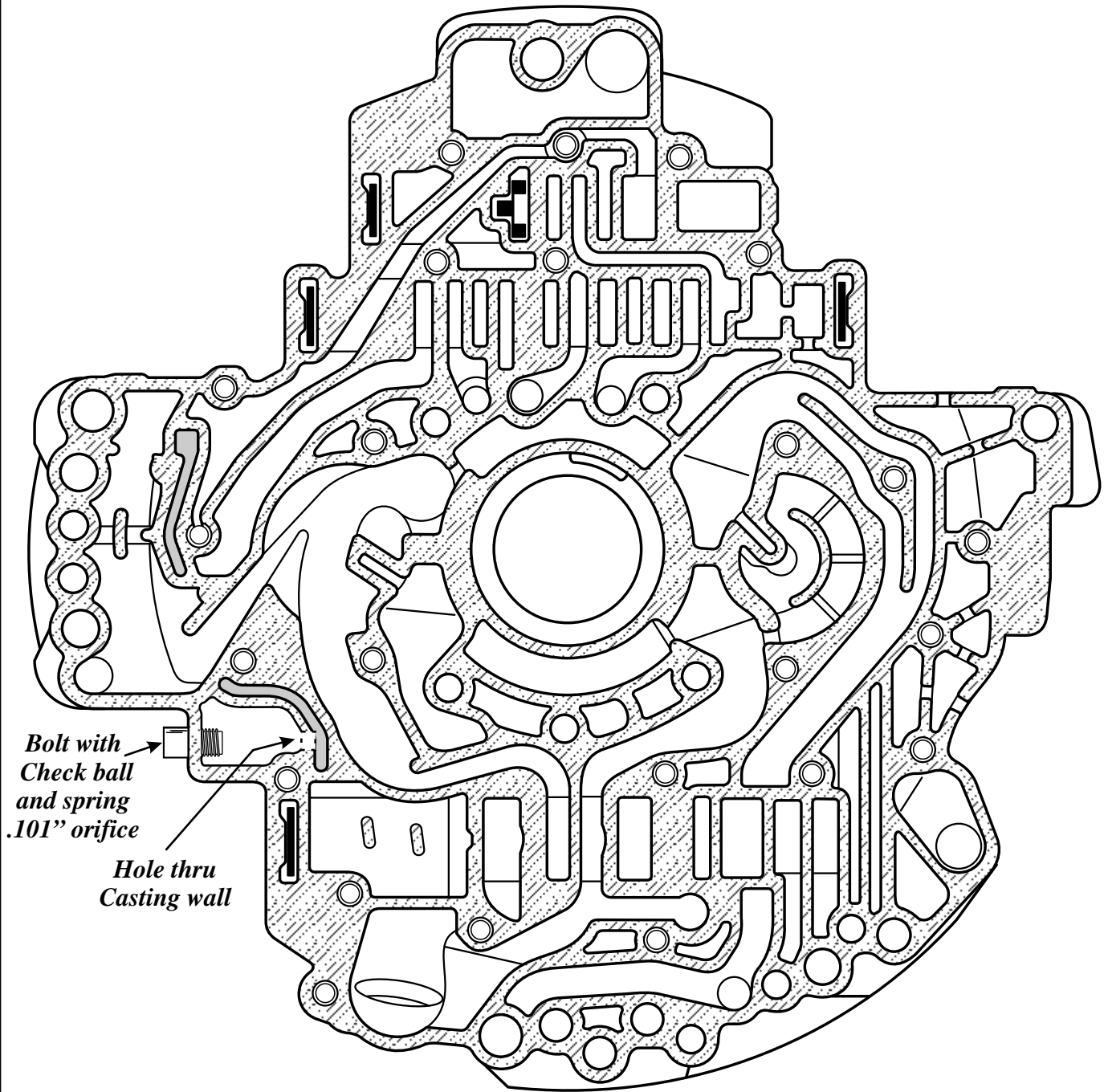
## 45/545/68RFE 2nd DESIGN PUMP SPACER PLATE



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Figure 8

## 45/545/68RFE 3rd DESIGN PUMP COVER

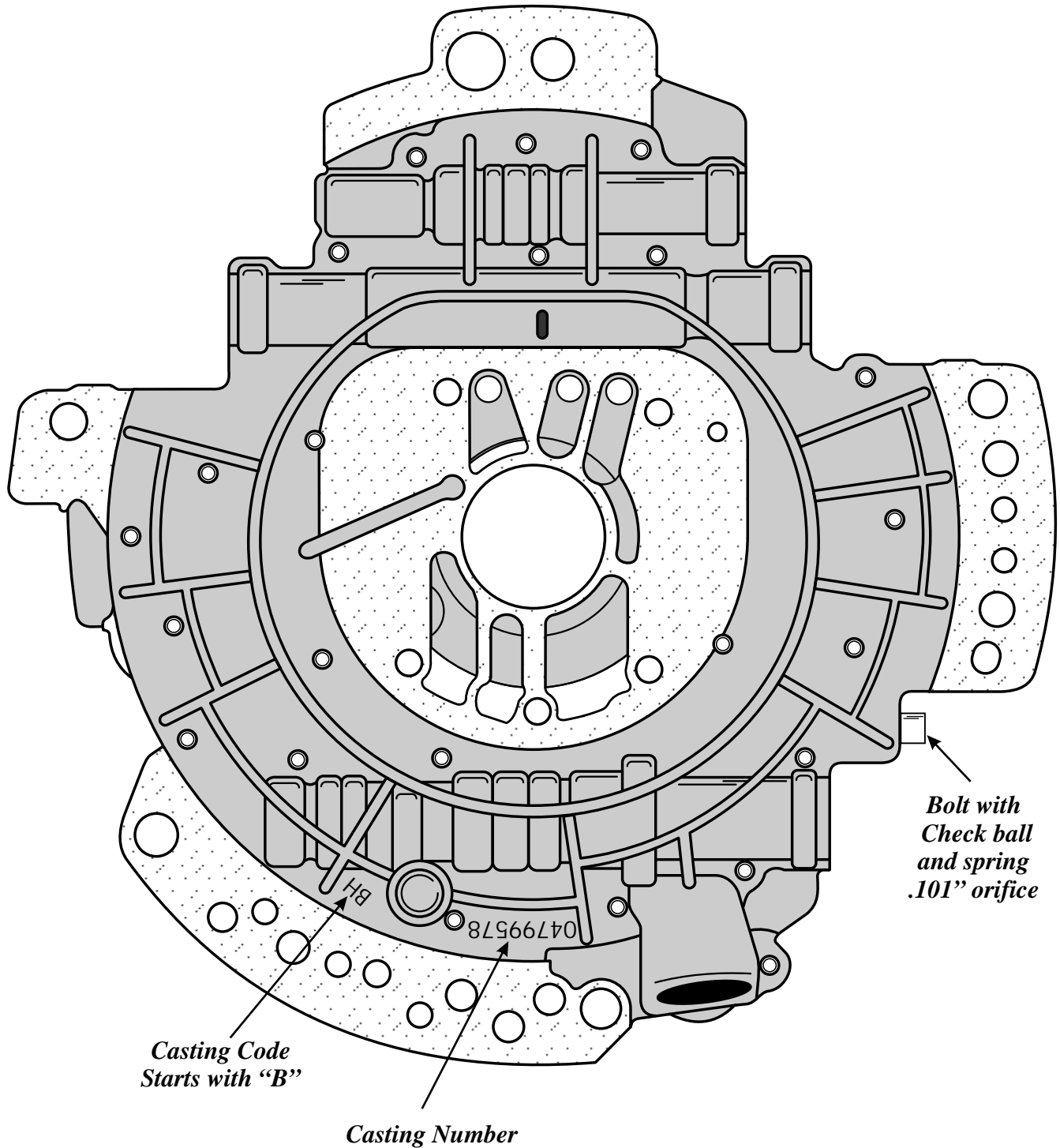


*The 2nd Design Pump plate has no "Hatchet Hole" therefore there will be no To Cooler Pressure connection to the sump.*

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Figure 9

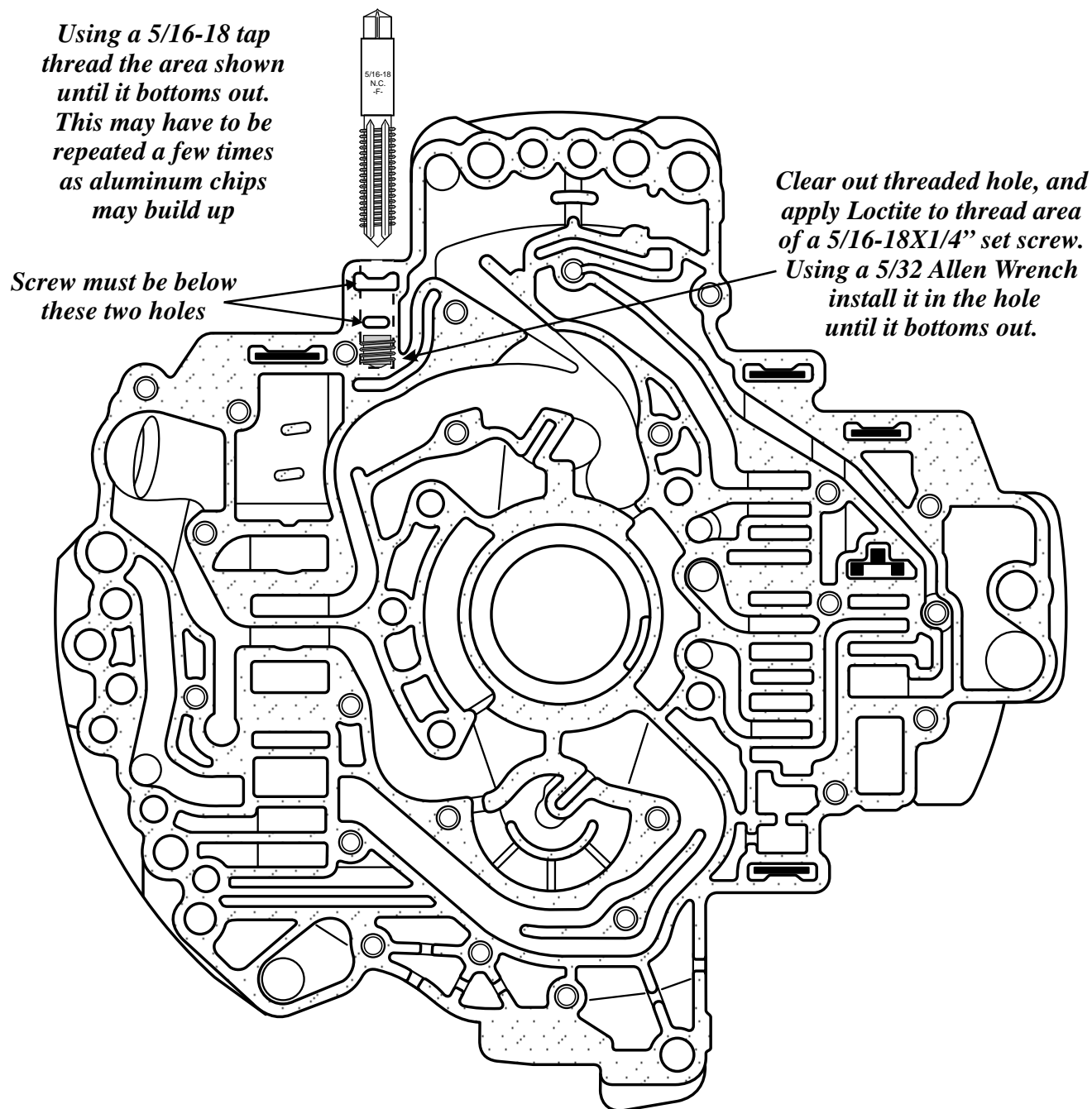
## 45RFE 3rd DESIGN PUMP COVER I.D.



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Figure 10

## 45RFE 1st DESIGN PUMP COVER MODIFICATION

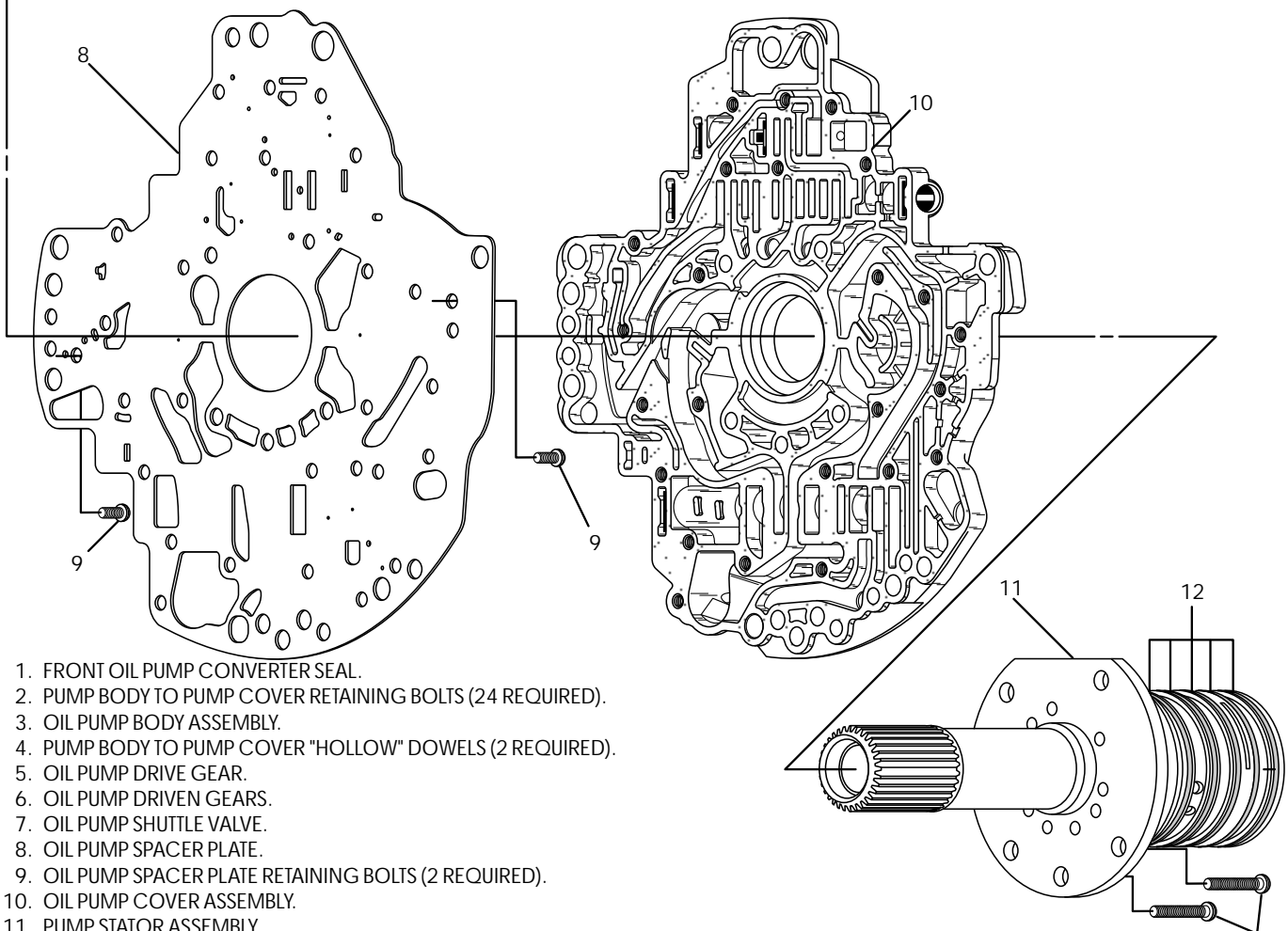
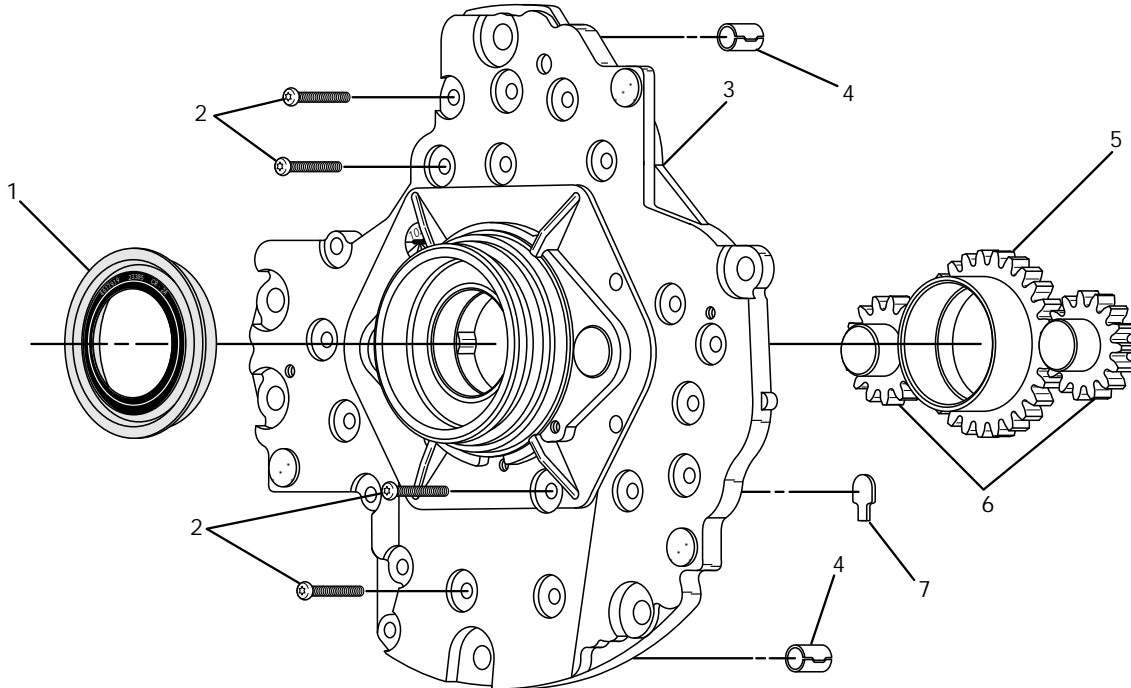


*To Modify the 1st design pump to eliminate the .077" orifice leading to the sump, follow the instructions listed above. Note: It is not necessary to drill the pump cover before tapping as the hole that is already present, will accept the tap to cut the threads easily.*

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Figure 11

## OIL PUMP ASSEMBLY EXPLODED VIEW



1. FRONT OIL PUMP CONVERTER SEAL.
2. PUMP BODY TO PUMP COVER RETAINING BOLTS (24 REQUIRED).
3. OIL PUMP BODY ASSEMBLY.
4. PUMP BODY TO PUMP COVER "HOLLOW" DOWELS (2 REQUIRED).
5. OIL PUMP DRIVE GEAR.
6. OIL PUMP DRIVEN GEARS.
7. OIL PUMP SHUTTLE VALVE.
8. OIL PUMP SPACER PLATE.
9. OIL PUMP SPACER PLATE RETAINING BOLTS (2 REQUIRED).
10. OIL PUMP COVER ASSEMBLY.
11. PUMP STATOR ASSEMBLY.
12. PUMP STATOR SEALING RINGS (5 REQUIRED).

NOTE: Early pump shown

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Figure 12