Dodge® Torque-Arm II: rotated oil levels

In Dodge catalogs and manuals, there are four standard positions for horizontal mountings (see **Figure 1**) for Torque-Arm II reducers. Oil levels are given for these standard positions as approximate oil volumes and reference a specific oil level hole to use as an oil level indicator.

Oil volume is supplied as an estimate only to advise maintenance personnel on approximate volume needed. The best method is to visually verify the level in reference to a hole in the casting. This is the most accurate way to ensure that the proper oil level is achieved.

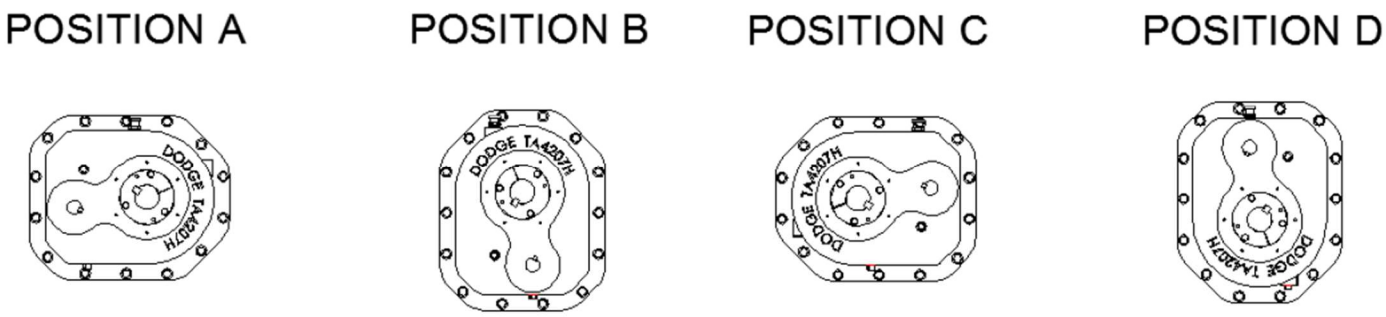

Figure 1. Tall Horizontal Mounting Positions

The four positions above are called horizontal mounting positions because the equipment shaft that the gearbox is mounted on is parallel to the ground. But what if this equipment shaft is parallel to the ground, but the gearbox can't be mounted in one of these standard positions and has to be rotated. Would you really know where to fill your oil level to?

Here is a list of what this whitepaper will and will not do:

1. Examine rotated positions (either clockwise or counter-clockwise) up to 45 degrees from each position for all 12 TAII reducer sizes.
2. Each drawing will show you what oil hole to use and how far above this hole the required oil level is. Some positions may only require that the oil be filled to this hole.
3. It won't give you specific parts to use because different applications may require different parts to clear obstacles (on motor mounts, guards, equipment, etc.). Common parts used to aid in getting up to the oil level may include oil sight glasses and tubes, elbows, standpipes or pipe nipples, and caps. See **Figures 2 and 3** for examples of these. In **Table 1**, the threads of the oil holes are listed for each reducer.
4. This whitepaper will give approximate oil volume ranges, but again, that is the amount taken to the reducer. The required oil level line should be used for the best results.
5. It won't give you oil levels for gearbox positions that have any incline (equipment shaft not parallel to ground). These inclined positions usually require more oil in them. This is to ensure that the upper most bearing inside the gearbox is getting oil. Contact Dodge product support for these situations.

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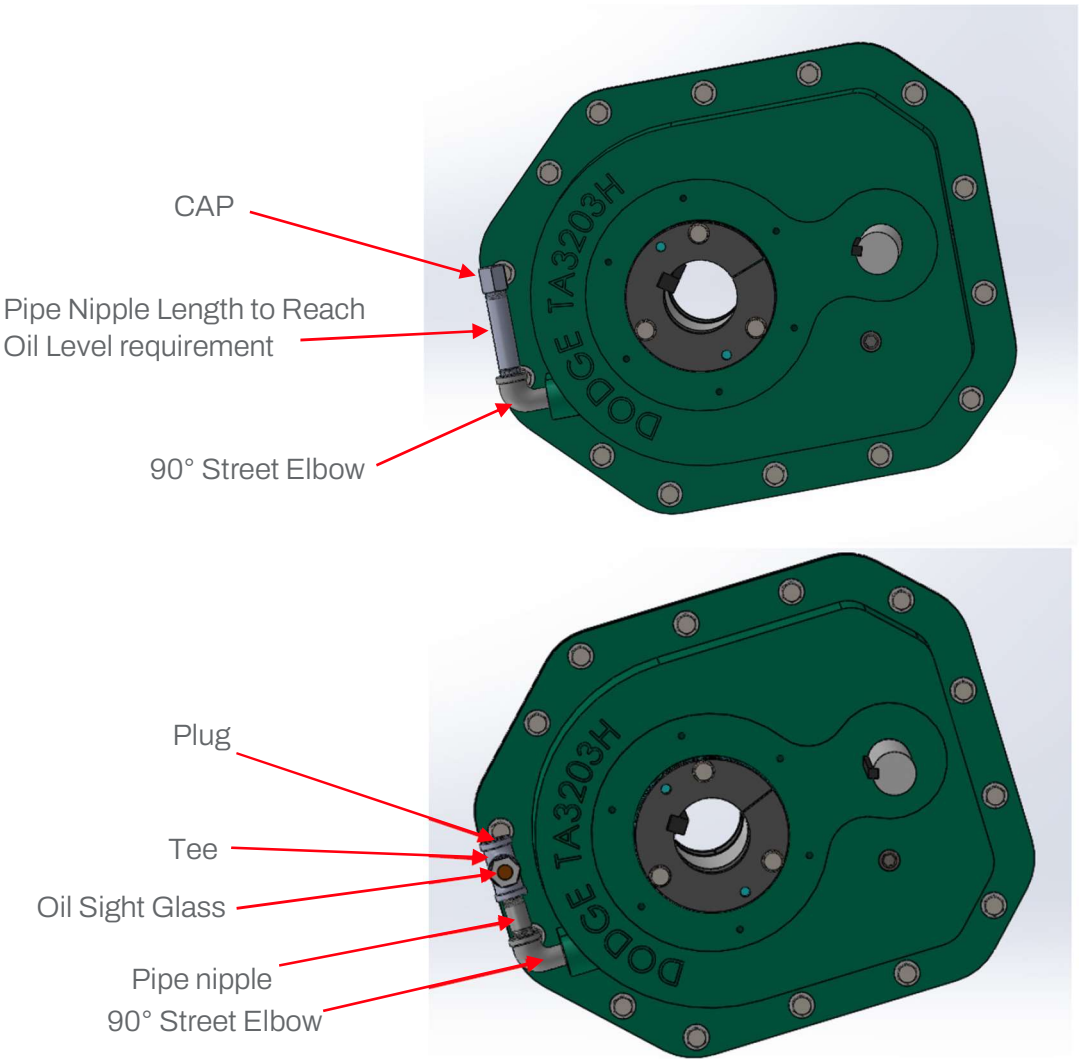


Figure 2. Ways to mount pipe additions to the gearbox

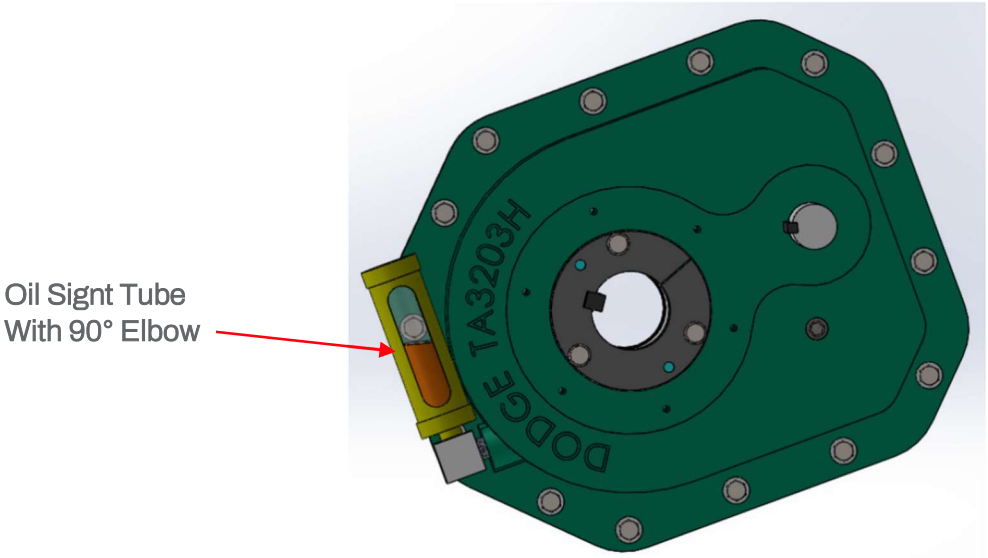


Figure 3. Ways to mount pipe additions to the gearbox

TA Size	Oil Plug Size
TA0107L	3/8" NPT
TA1107H	3/8" NPT
TA2115H	3/8" NPT
TA3203H	3/8" NPT
TA4207H	3/4" NPT
TA5215H	3/4" NPT
TA6307H	3/4" NPT
TA7315H	3/4" NPT
TA8407H	3/4" NPT
TA9415H	3/4" NPT
TA10507H	3/4" NPT
TA12608H	3/4" NPT

Table 1: Thread size of holes for all TAII reducers

Note: The standard breather that comes with TA4207H-TA12608H reducers has a 1/2" NPT thread and is assembled into an adapter that goes from the 1/2" NPT to the 3/4" NPT hole of the reducer.

Other notes:

1. These oil levels should be good down to around 20 rpm of gearbox output speed. If your output speed gets close to and below this threshold, you may need more oil in the gearbox. Contact Dodge Application Engineering for assistance.
2. As more oil is put in the gearbox, there may be a tendency for oil to start and seep out of the breather. If this happens, the breather can be extended away from the reducer with additional pipe fittings.
3. As more oil is put in the gearbox, the sump temperature of the gearbox is likely to increase. As this temperature approaches 200°F, a shaft cooling fan may be required to keep the gearbox temperature under this threshold.
4. Reducers with backstops may require more oil if the backstop liftoff speed is not achieved. Contact Dodge Application Engineering for assistance.

Steps to determine the oil required for your application:

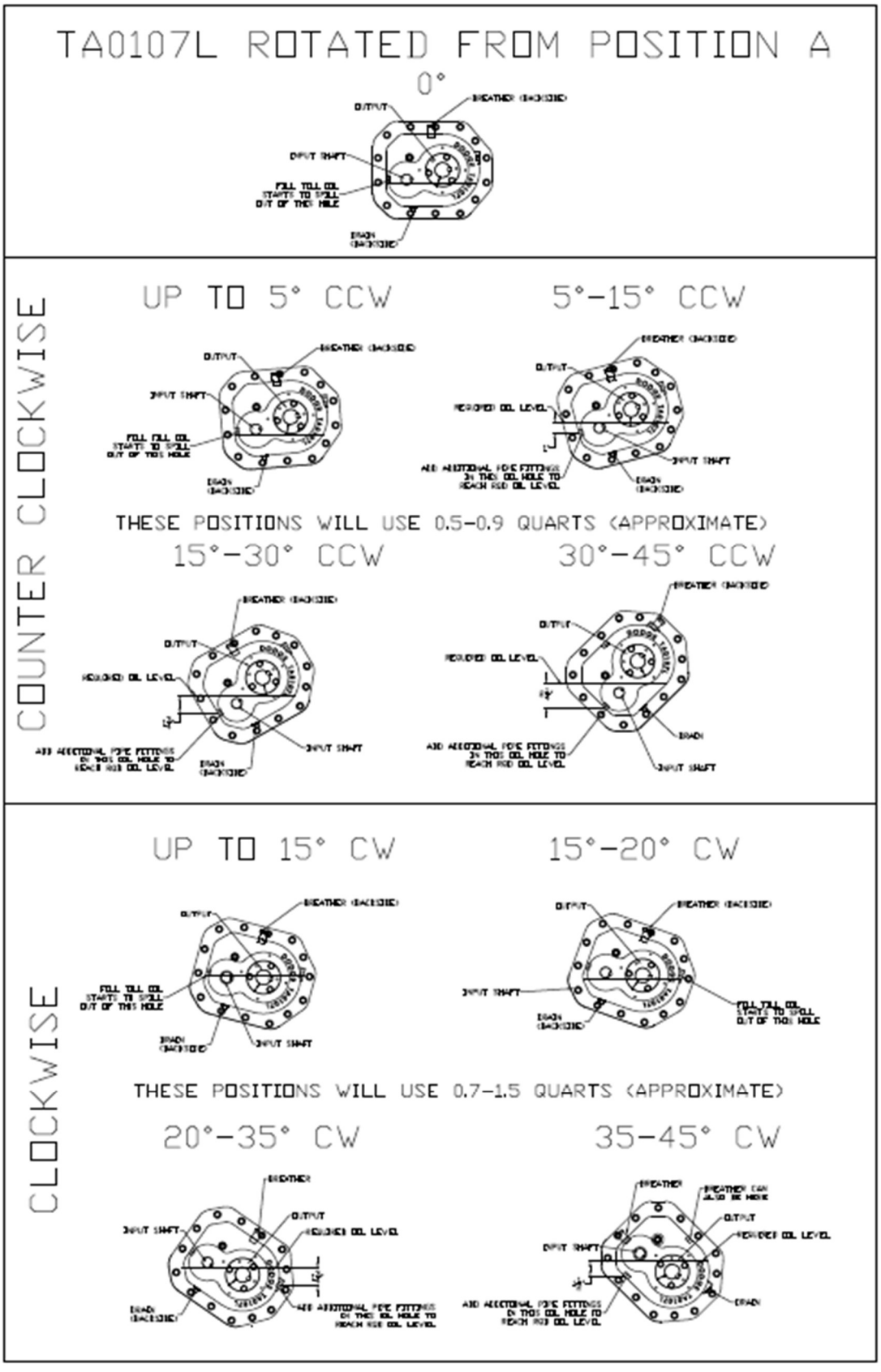
1. Determine case size of reducer that you have
2. Looking at the input shaft side of your reducer, determine which standard horizontal mounting position is closest to your setup
3. Determine how many degrees it is rotated from this position and either if it clockwise or counter-clockwise.
4. Use the table of contents on the next page to determine which page to find your mounting arrangement.

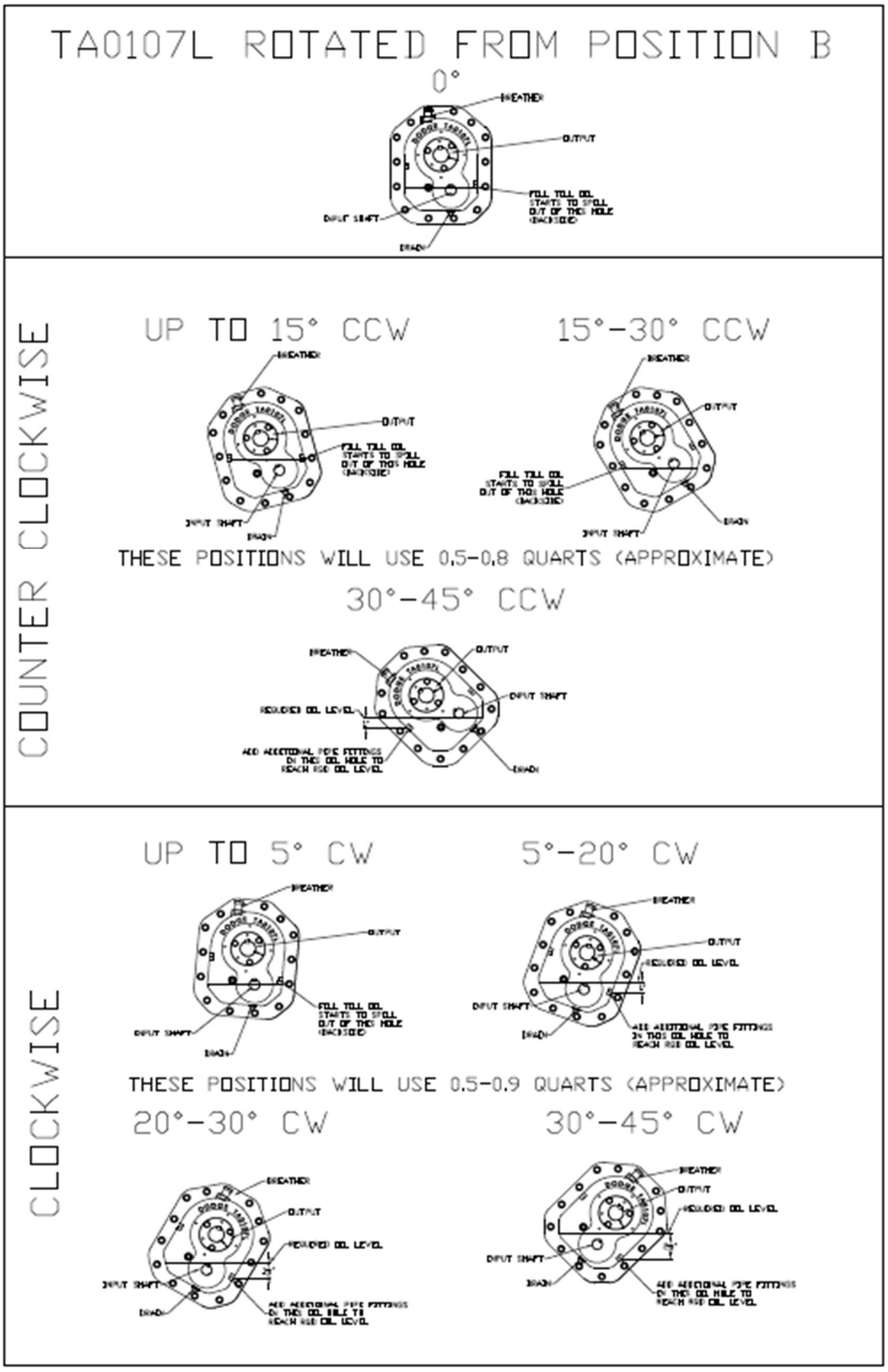
Table of Contents (TA0107L through TA6307H)

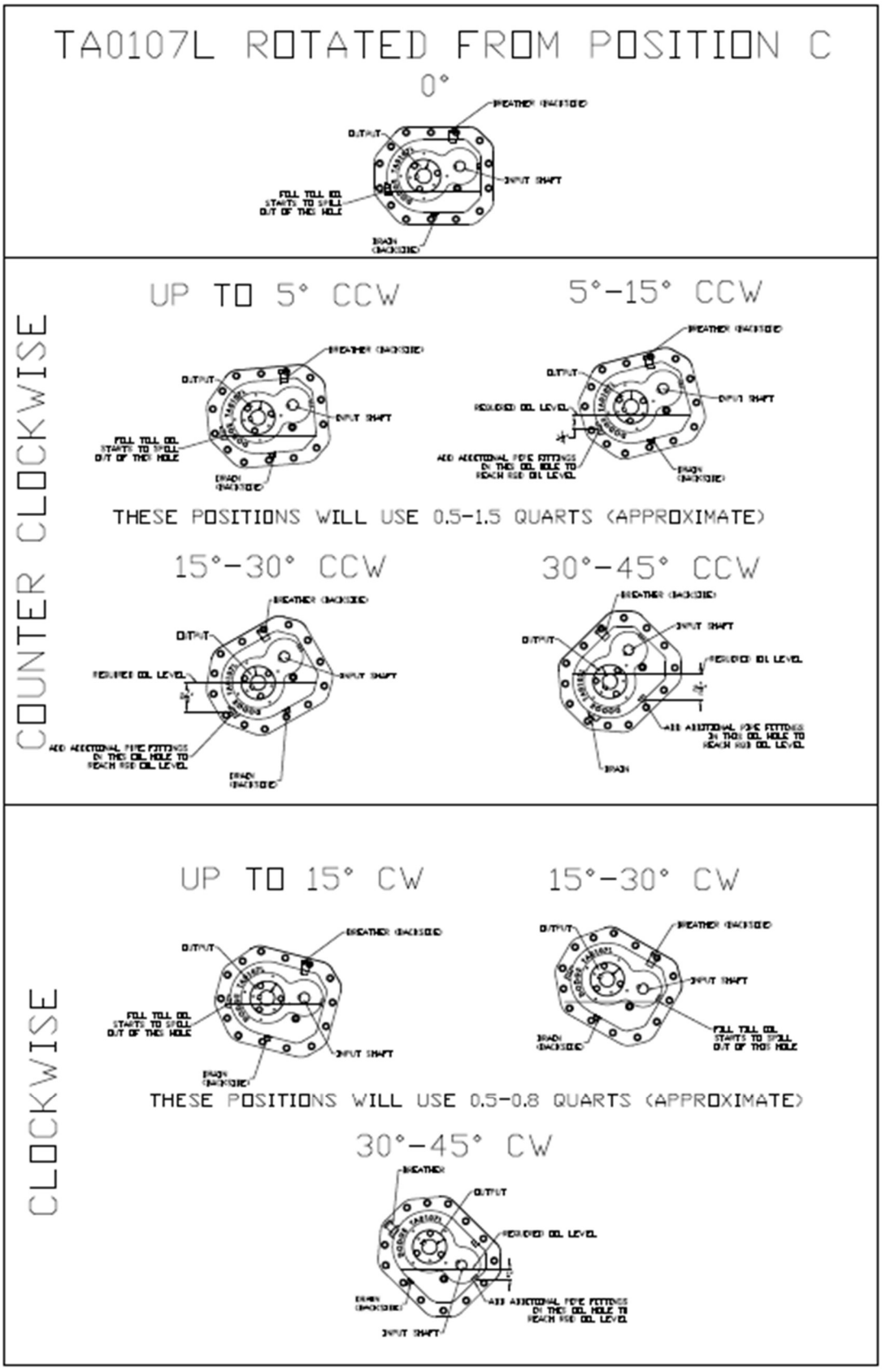
Reducer and Orientation	Page #
TA0107L Clockwise and Counter-Clockwise Rotations from:	
Position A	7
Position B	8
Position C	9
Position D	10
TA1107H Clockwise and Counter-Clockwise Rotations from:	
Position A	11
Position B	12
Position C	13
Position D	14
TA2115H Clockwise and Counter-Clockwise Rotations from:	
Position A	15
Position B	16
Position C	17
Position D	18
TA3203H Clockwise and Counter-Clockwise Rotations from:	
Position A	19
Position B	20
Position C	21
Position D	22
TA4207H Clockwise and Counter-Clockwise Rotations from:	
Position A	23
Position B	24
Position C	25
Position D	26
TA5215H Clockwise and Counter-Clockwise Rotations from:	
Position A	27
Position B	28
Position C	29
Position D	30
TA6307H Clockwise and Counter-Clockwise Rotations from:	
Position A	31
Position B	32
Position C	33
Position D	34

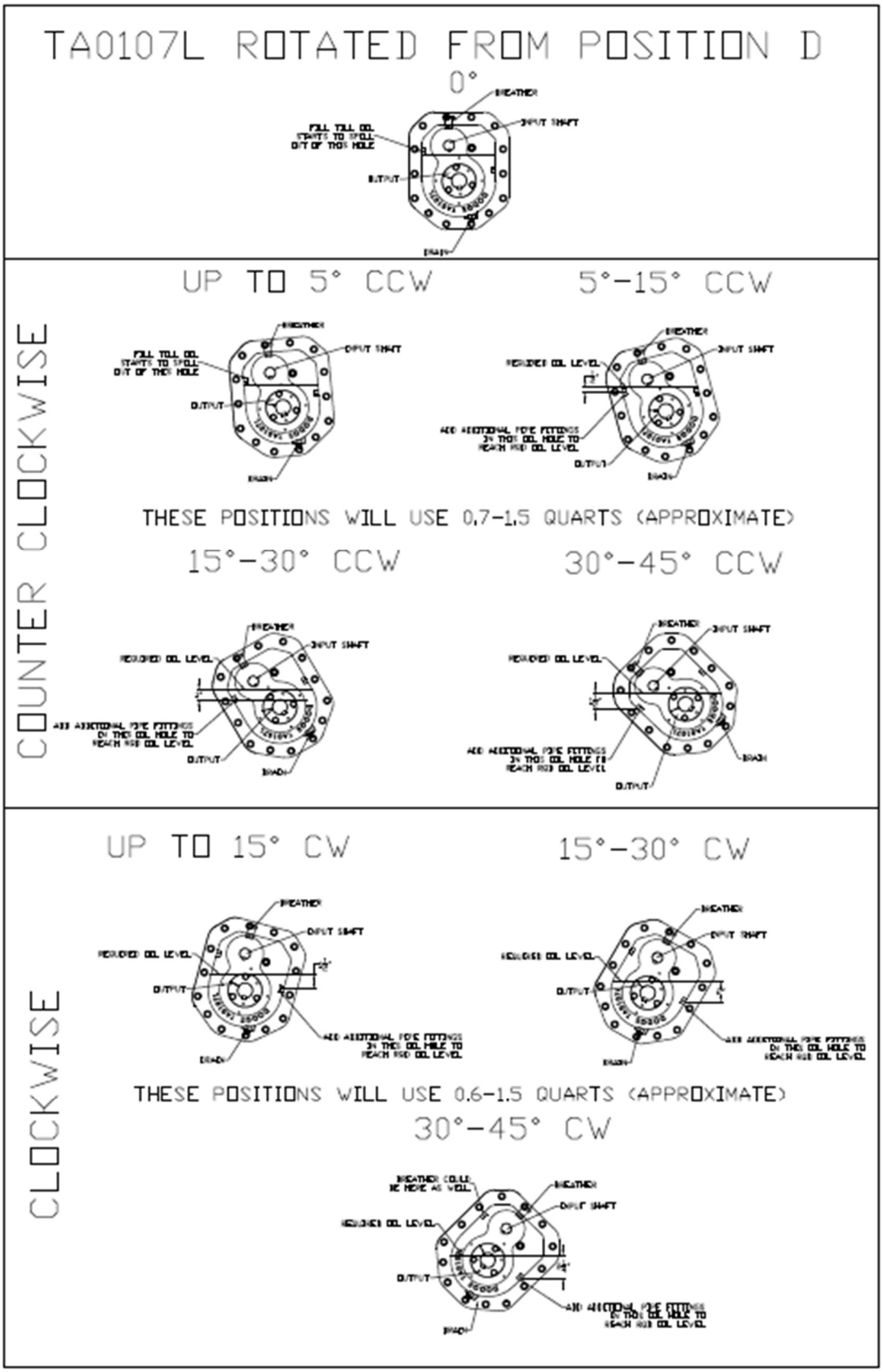
Table of contents (TA7315H through TA12608H)

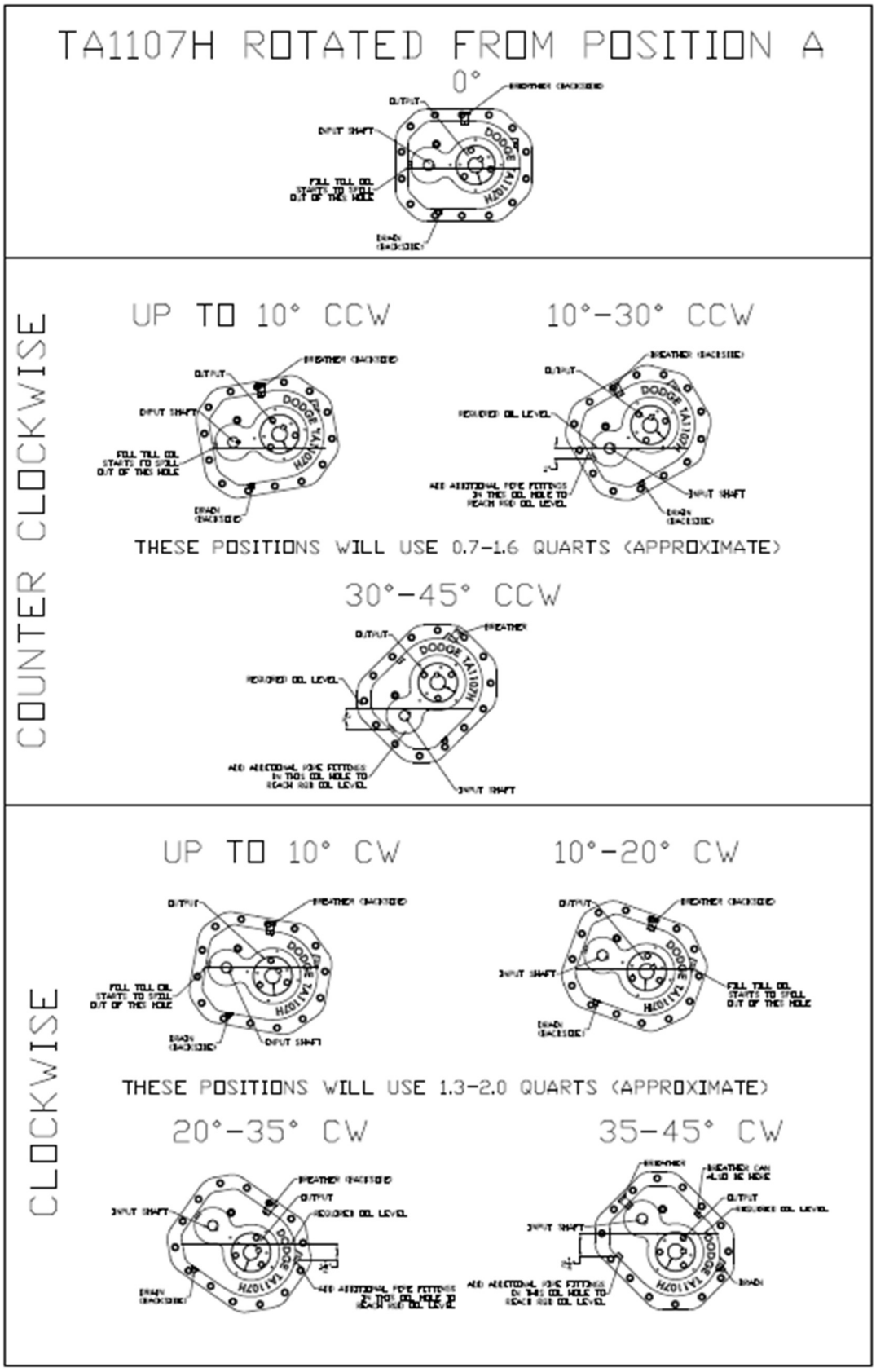
Reducer and Orientation	Page #
TA7315H Clockwise and Counter-Clockwise Rotations from:	
Position A	35
Position B	36
Position C	37
Position D	38
TA8407H Clockwise and Counter-Clockwise Rotations from:	
Position A	39
Position B	40
Position C	41
Position D	42
TA9415H Clockwise and Counter-Clockwise Rotations from:	
Position A	43
Position B	44
Position C	45
Position D	46
TA10507H Rotations:	
Counter-Clockwise from Position A	47
Clockwise from Position A	48
Counter-Clockwise from Position B	49
Clockwise from Position B	50
Counter-Clockwise from Position C	51
Clockwise from Position C	52
Counter-Clockwise from Position D	53
Clockwise from Position D	54
TA12608H Rotations:	
Counter-Clockwise from Position A	55
Clockwise from Position A	56
Counter-Clockwise from Position B	57
Clockwise from Position B	58
Counter-Clockwise from Position C	59
Clockwise from Position C	60
Counter-Clockwise from Position D	61
Clockwise from Position D	62


TA0107L ROTATED FROM POSITION A
0°
COUNTER CLOCKWISE
UP TO 5° CCW
5°–15° CCW
THESE POSITIONS WILL USE 0.5–0.9 QUARTS (APPROXIMATE)
15°–30° CCW
30°–45° CCW
CLOCKWISE
UP TO 15° CW
15°–20° CW
THESE POSITIONS WILL USE 0.7–1.5 QUARTS (APPROXIMATE)
20°–35° CW
35–45° CW


TA0107L ROTATED FROM POSITION B
0°
BREATHER
O/TPUT
FILL TILL OIL STARTS TO SPILL O/T OF THIS HOLE (BACKSIDE)
INPUT SHAFT
DRAIN
COUNTER CLOCKWISE
UP TO 15° CCW
15°-30° CCW
THESE POSITIONS WILL USE 0.5-0.8 QUARTS (APPROXIMATE)
30°-45° CCW
REQUIRED OIL LEVEL
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL
CLOCKWISE
UP TO 5° CW
5°-20° CW
THESE POSITIONS WILL USE 0.5-0.9 QUARTS (APPROXIMATE)
20°-30° CW
30°-45° CW

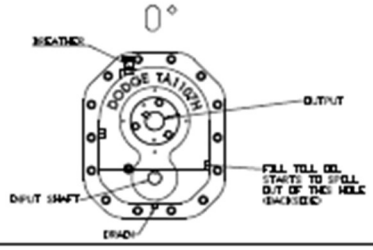

TA0107L ROTATED FROM POSITION C
0°
BREATHER (BACKSIDE)
OUTPUT
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE
DRAIN (BACKSIDE)
COUNTER CLOCKWISE
UP TO 5° CCW
5°-15° CCW
REQUIRED OIL LEVEL
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH RQD OIL LEVEL
THESE POSITIONS WILL USE 0.5-1.5 QUARTS (APPROXIMATE)
15°-30° CCW
30°-45° CCW
CLOCKWISE
UP TO 15° CW
15°-30° CW
THESE POSITIONS WILL USE 0.5-0.8 QUARTS (APPROXIMATE)
30°-45° CW


TA0107L ROTATED FROM POSITION D
0°
BREATHER
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE
OUTPUT
DRAIN
COUNTER CLOCKWISE
UP TO 5° CCW
5°-15° CCW
THESE POSITIONS WILL USE 0.7-1.5 QUARTS (APPROXIMATE)
15°-30° CCW
30°-45° CCW
CLOCKWISE
UP TO 15° CW
15°-30° CW
THESE POSITIONS WILL USE 0.6-1.5 QUARTS (APPROXIMATE)
30°-45° CW


TA1107H ROTATED FROM POSITION A
0°
OUTPUT
BREATHER (BACKSIDE)
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE
DRAIN (BACKSIDE)
COUNTER CLOCKWISE
UP TO 10° CCW
10°-30° CCW
REQUIRED OIL LEVEL
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL
THESE POSITIONS WILL USE 0.7-1.6 QUARTS (APPROXIMATE)
30°-45° CCW
CLOCKWISE
UP TO 10° CW
10°-20° CW
THESE POSITIONS WILL USE 1.3-2.0 QUARTS (APPROXIMATE)
20°-35° CW
35-45° CW
BREATHER CAN ALSO BE HERE

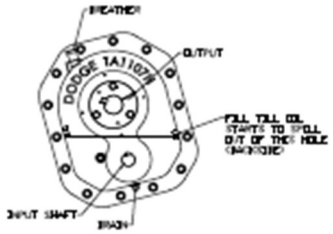
TA1107H ROTATED FROM POSITION B

0°

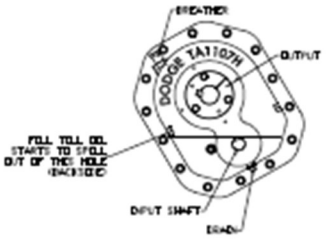


COUNTER CLOCKWISE

UP TO 15° CCW

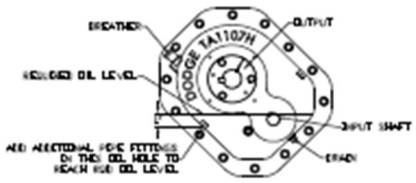


15°–30° CCW



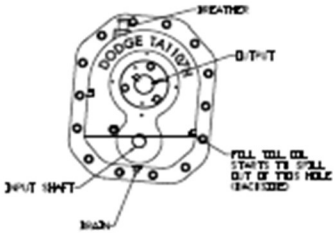
THESE POSITIONS WILL USE 0.6–1.0 QUARTS (APPROXIMATE)

30°–45° CCW

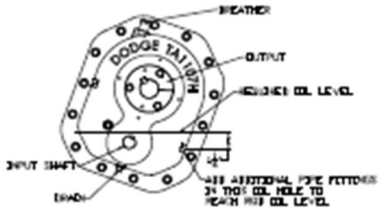


CLOCKWISE

UP TO 5° CW

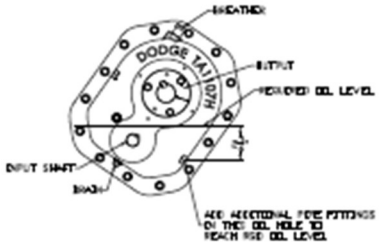


5°–20° CW

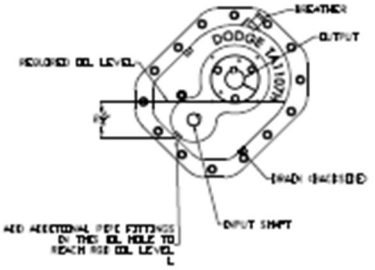


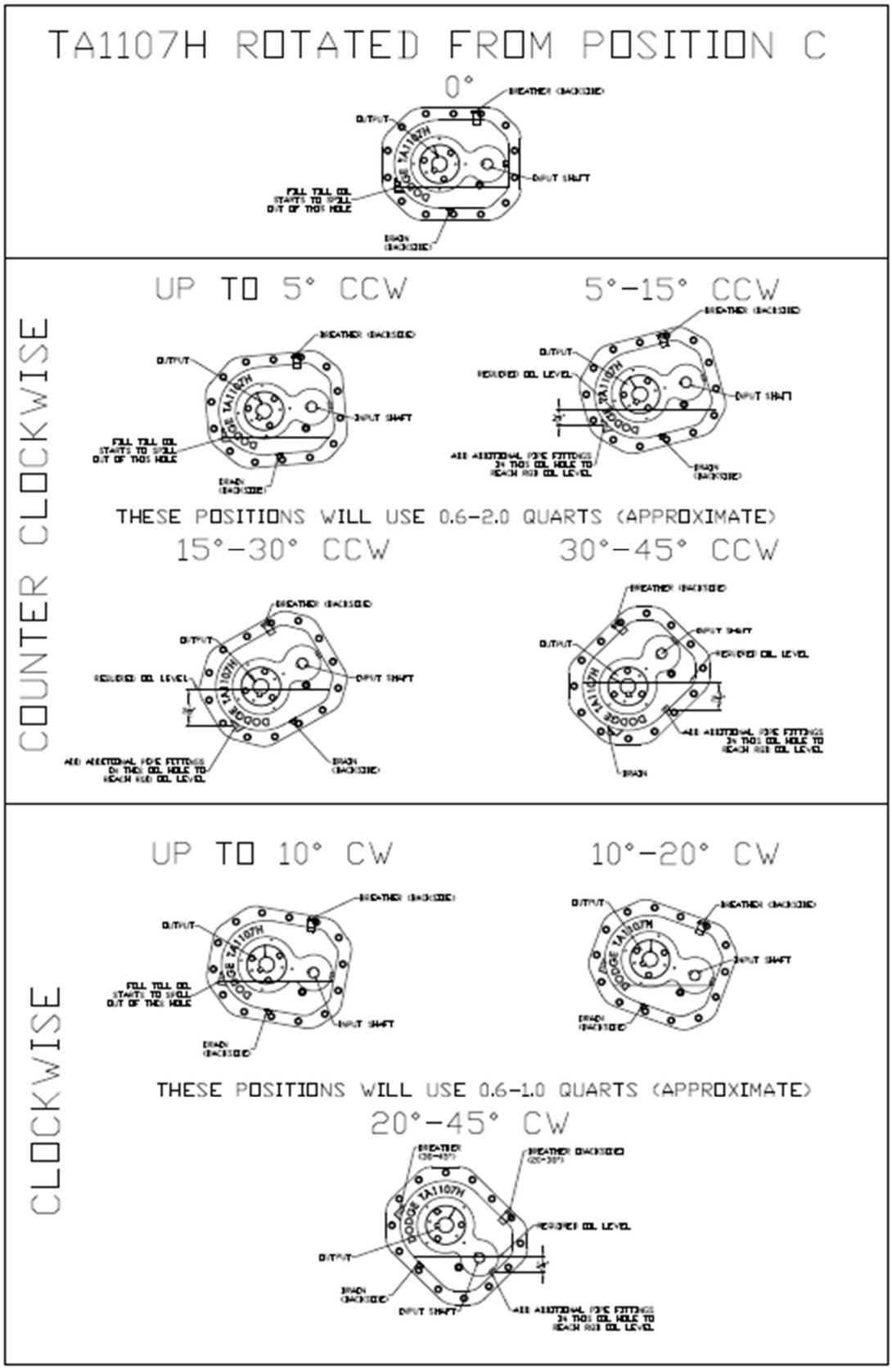
THESE POSITIONS WILL USE 0.7–1.6 QUARTS (APPROXIMATE)

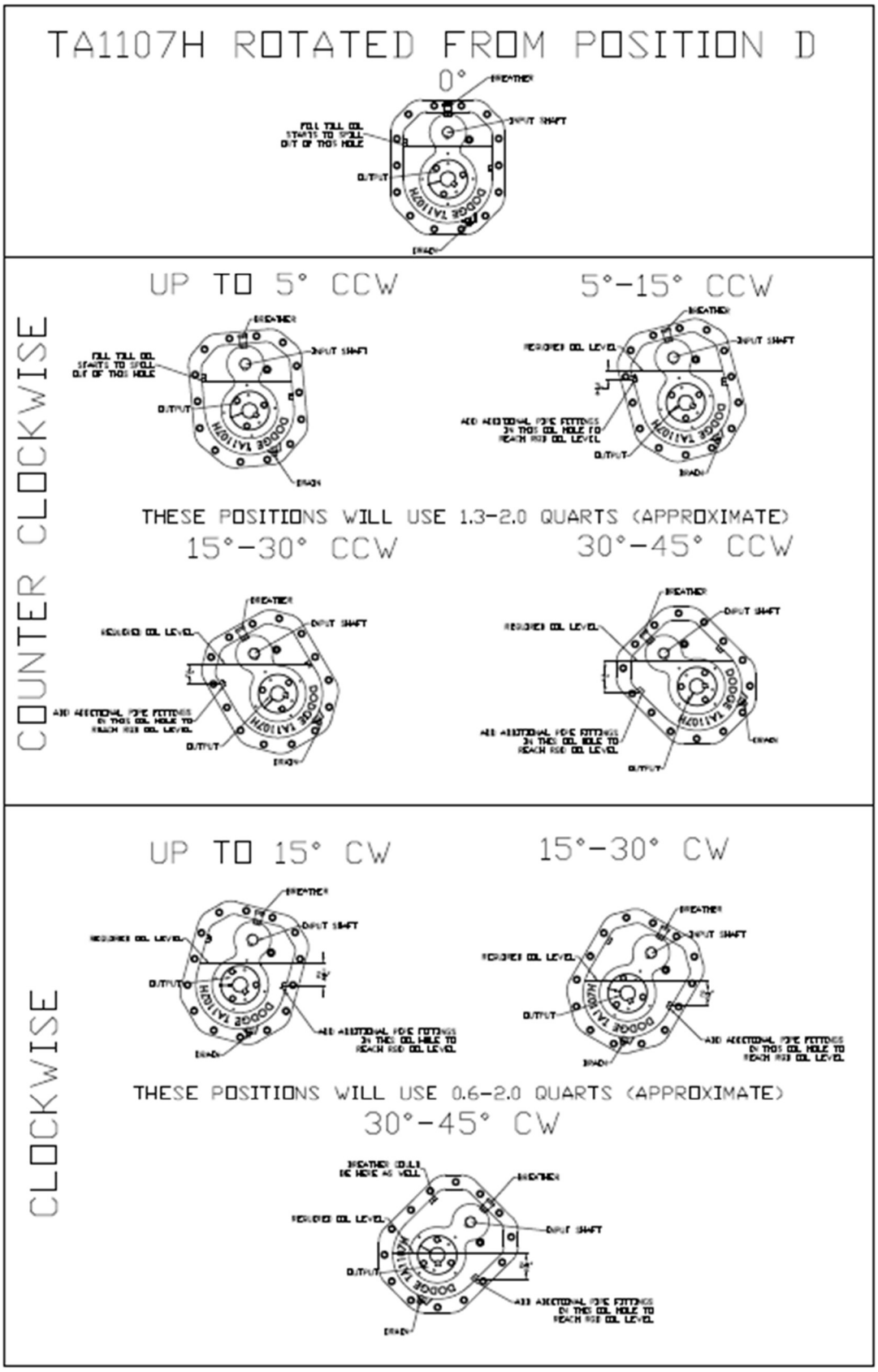
20°–35° CW

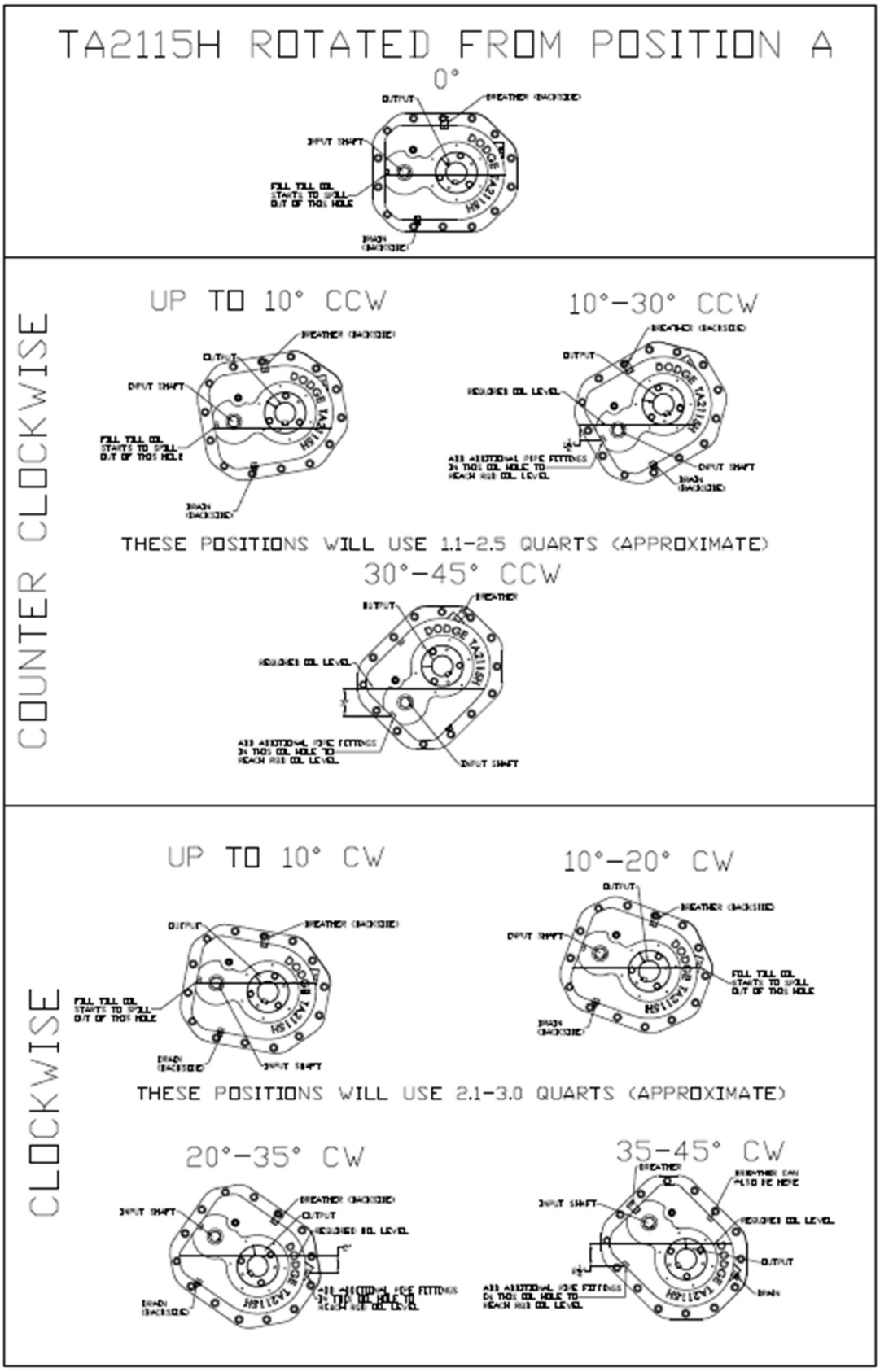


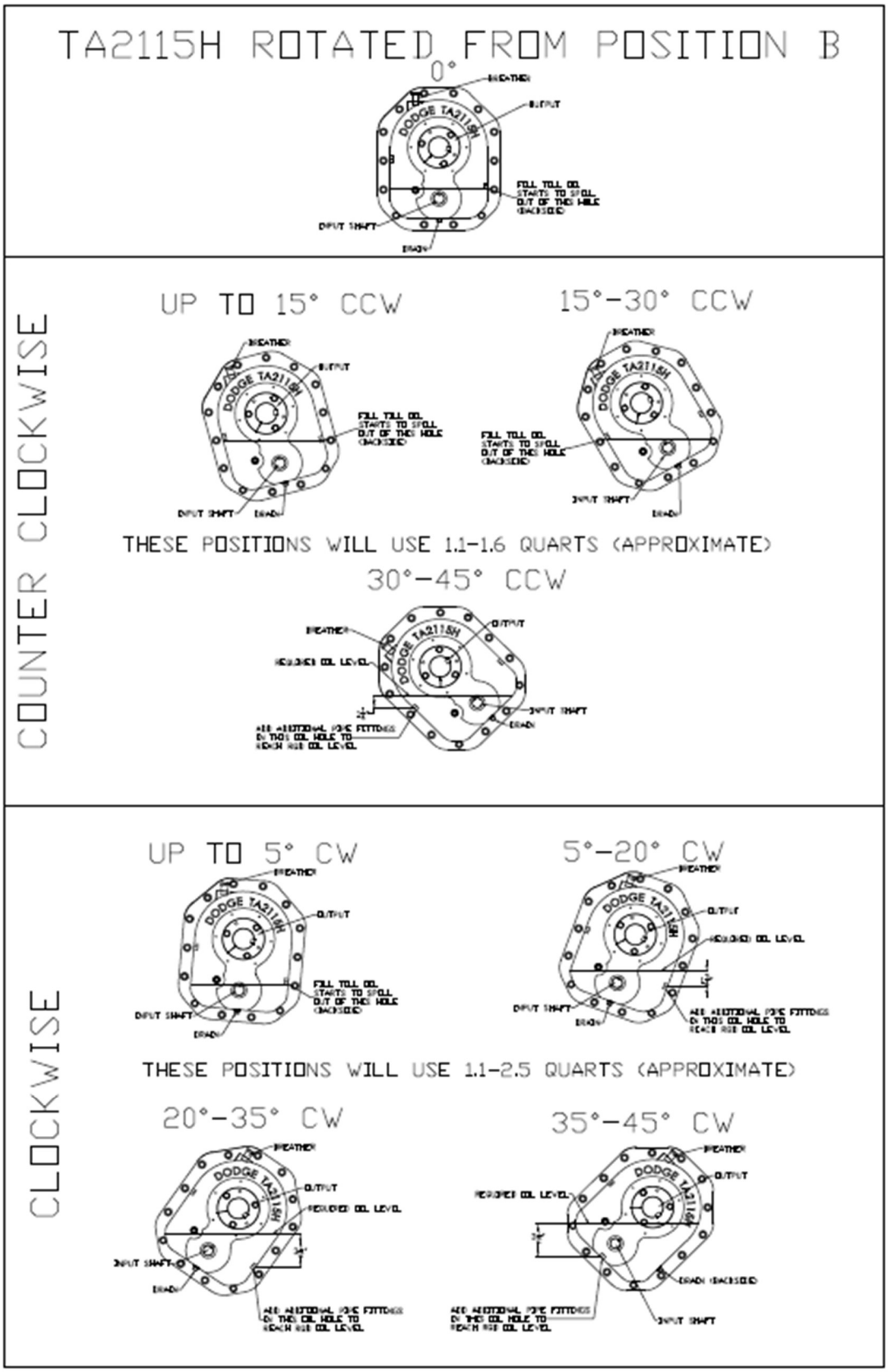
35°–45° CW

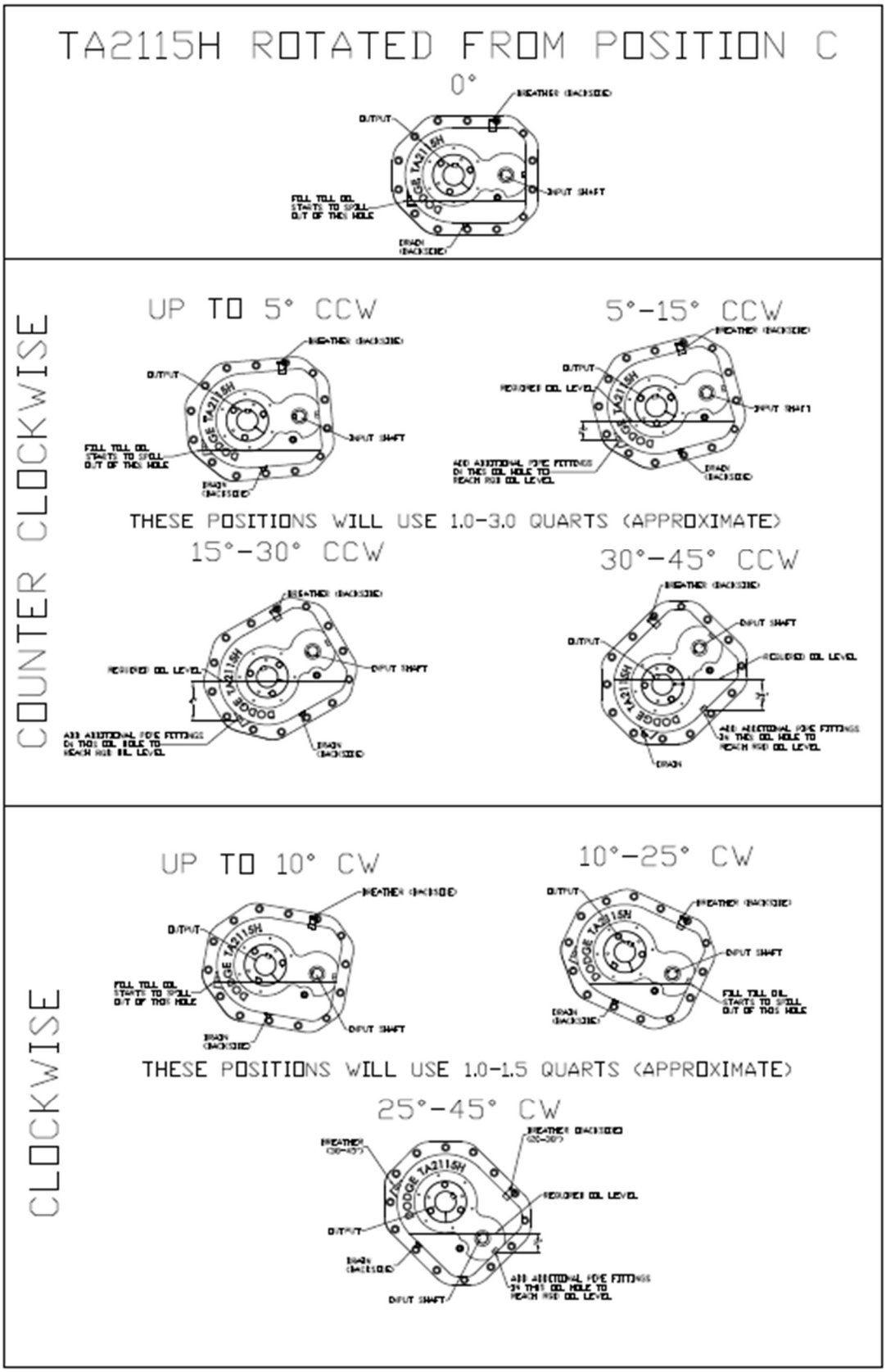


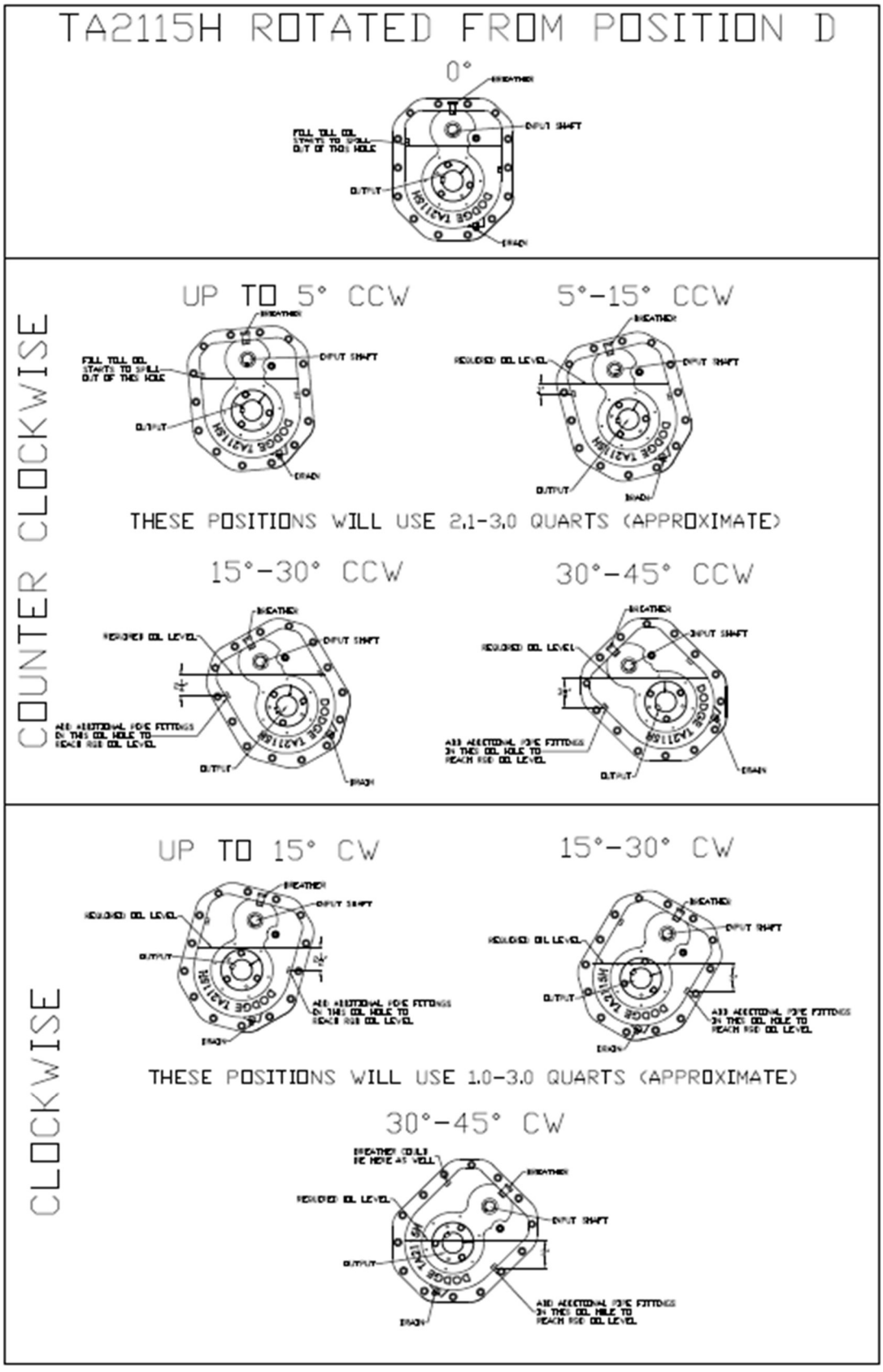

TA1107H ROTATED FROM POSITION C
0°
BREATHER (BACKSIDE)
O/TPUT
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL O/T OF THIS HOLE
DRAIN (BACKSIDE)
COUNTER CLOCKWISE
UP TO 5° CCW
5°-15° CCW
REQUIRED OIL LEVEL
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL
THESE POSITIONS WILL USE 0.6-2.0 QUARTS (APPROXIMATE)
15°-30° CCW
30°-45° CCW
CLOCKWISE
UP TO 10° CW
10°-20° CW
THESE POSITIONS WILL USE 0.6-1.0 QUARTS (APPROXIMATE)
20°-45° CW

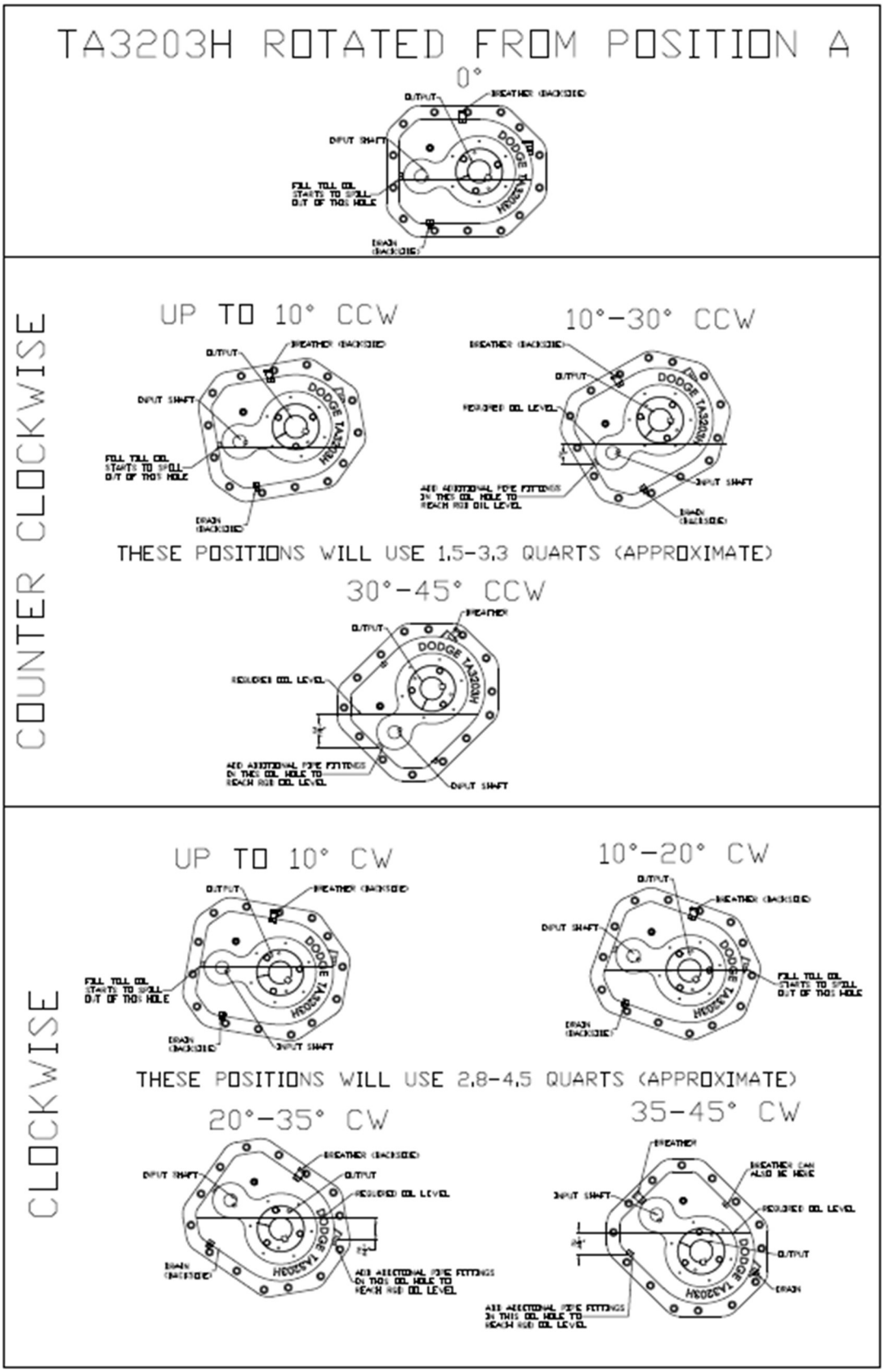

TA1107H ROTATED FROM POSITION D
0°
UP TO 5° CCW
5°–15° CCW
COUNTER CLOCKWISE
THESE POSITIONS WILL USE 1.3–2.0 QUARTS (APPROXIMATE)
15°–30° CCW
30°–45° CCW
UP TO 15° CW
15°–30° CW
CLOCKWISE
THESE POSITIONS WILL USE 0.6–2.0 QUARTS (APPROXIMATE)
30°–45° CW

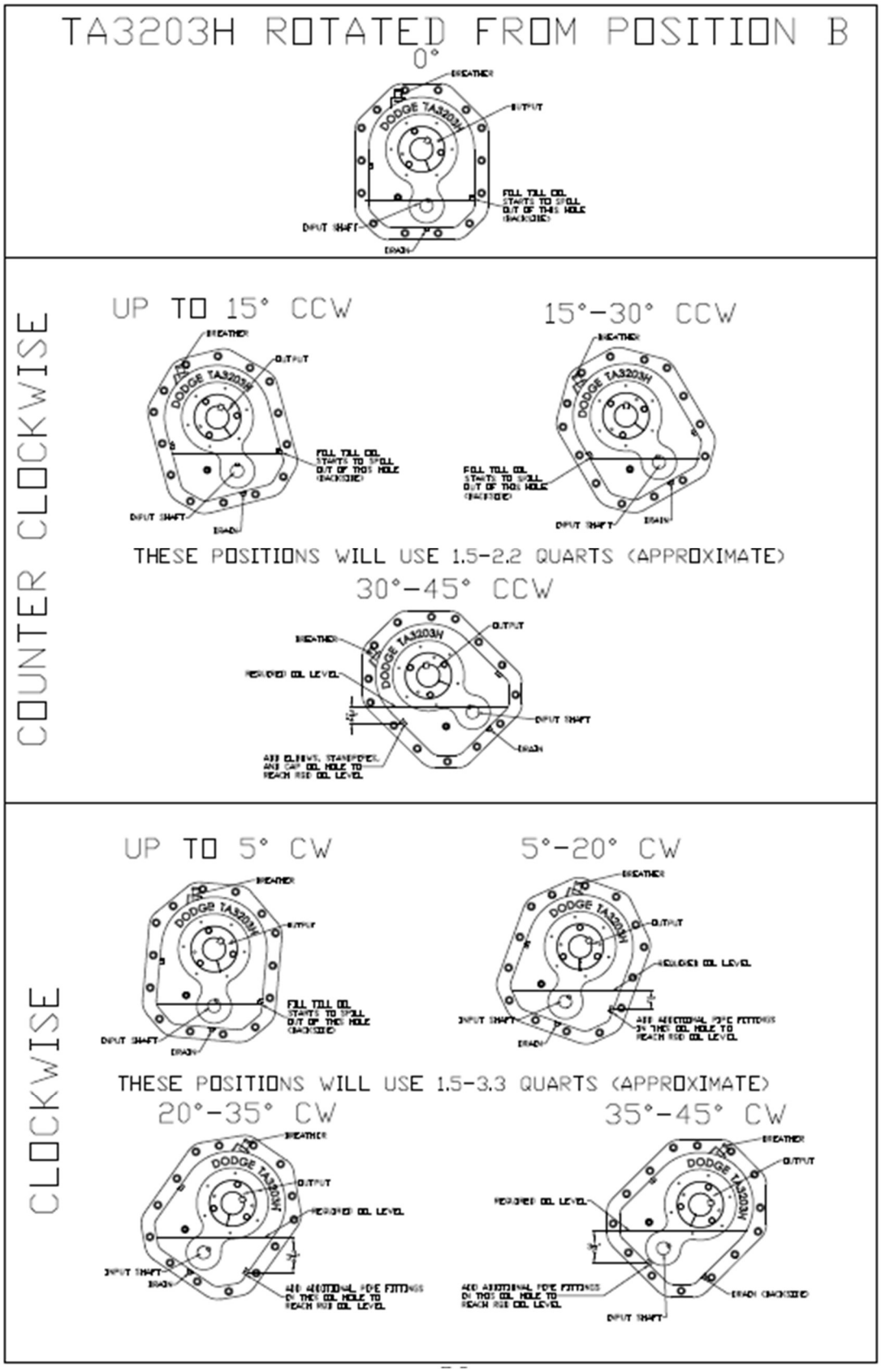

TA2115H ROTATED FROM POSITION A
0°
OUTPUT
BREATHER (BACKSIDE)
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE
DRAIN (BACKSIDE)
COUNTER CLOCKWISE
UP TO 10° CCW
10°–30° CCW
THESE POSITIONS WILL USE 1.1–2.5 QUARTS (APPROXIMATE)
30°–45° CCW
CLOCKWISE
UP TO 10° CW
10°–20° CW
THESE POSITIONS WILL USE 2.1–3.0 QUARTS (APPROXIMATE)
20°–35° CW
35–45° CW

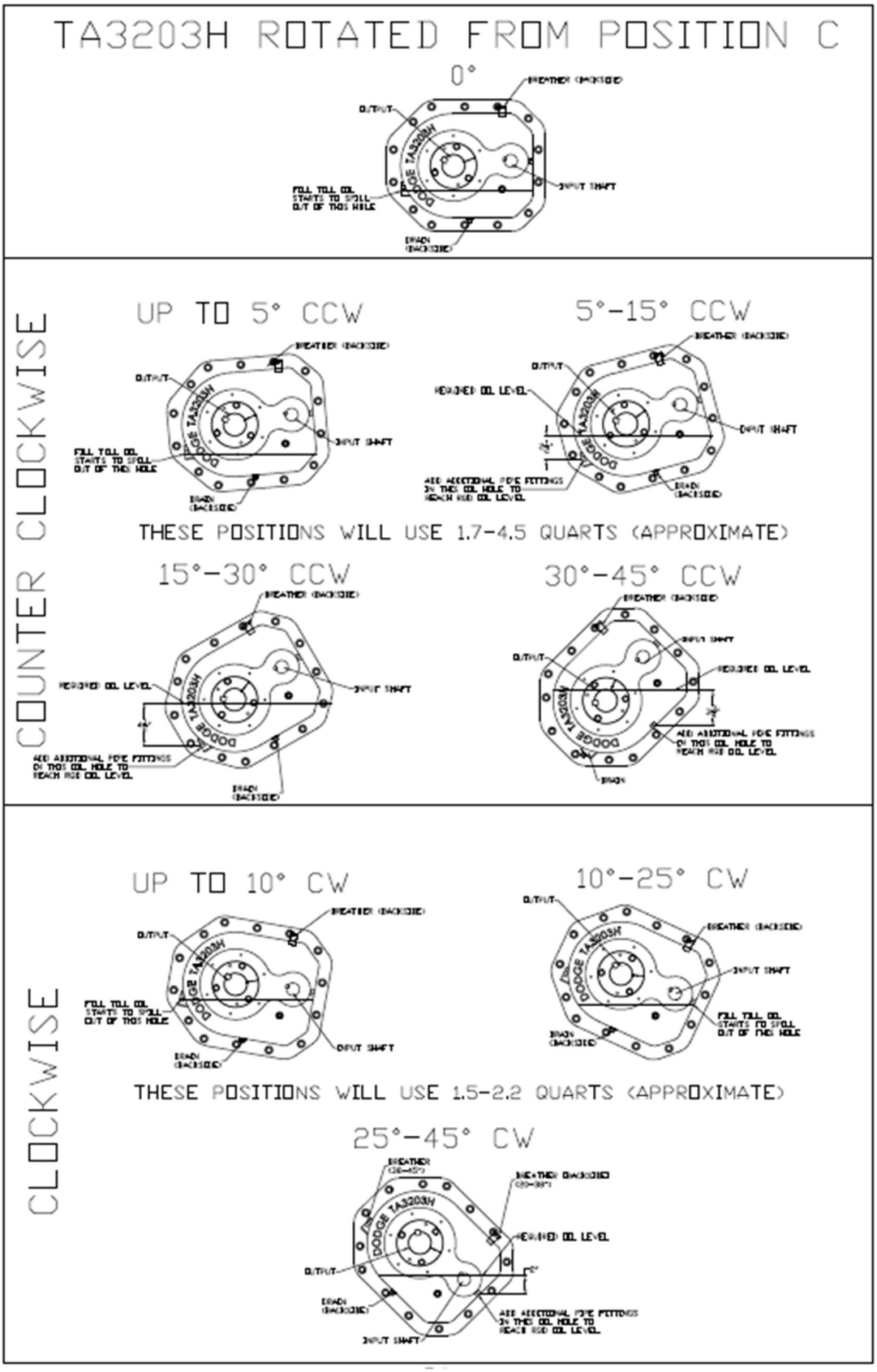

TA2115H ROTATED FROM POSITION B
0°
BREATHER
OUTPUT
FILL TILL OIL STARTS TO SPILL O/T OF THIS HOLE (BACKSIDE)
INPUT SHAFT
DRAIN
COUNTER CLOCKWISE
UP TO 15° CCW
15°–30° CCW
THESE POSITIONS WILL USE 1.1–1.6 QUARTS (APPROXIMATE)
30°–45° CCW
CLOCKWISE
UP TO 5° CW
5°–20° CW
THESE POSITIONS WILL USE 1.1–2.5 QUARTS (APPROXIMATE)
20°–35° CW
35°–45° CW

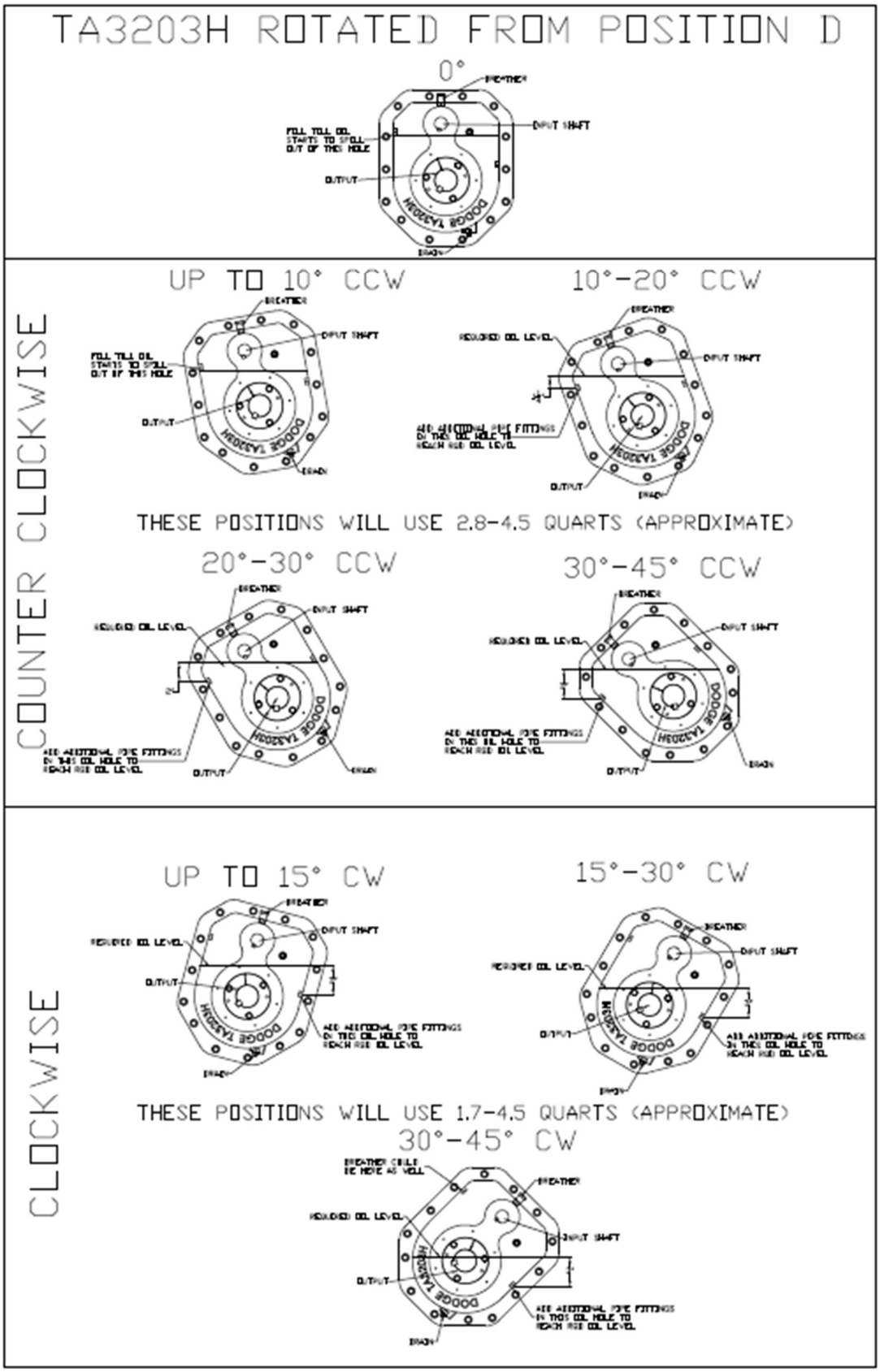

TA2115H ROTATED FROM POSITION C
0°
COUNTER CLOCKWISE
UP TO 5° CCW
5°-15° CCW
THESE POSITIONS WILL USE 1.0-3.0 QUARTS (APPROXIMATE)
15°-30° CCW
30°-45° CCW
CLOCKWISE
UP TO 10° CW
10°-25° CW
THESE POSITIONS WILL USE 1.0-1.5 QUARTS (APPROXIMATE)
25°-45° CW

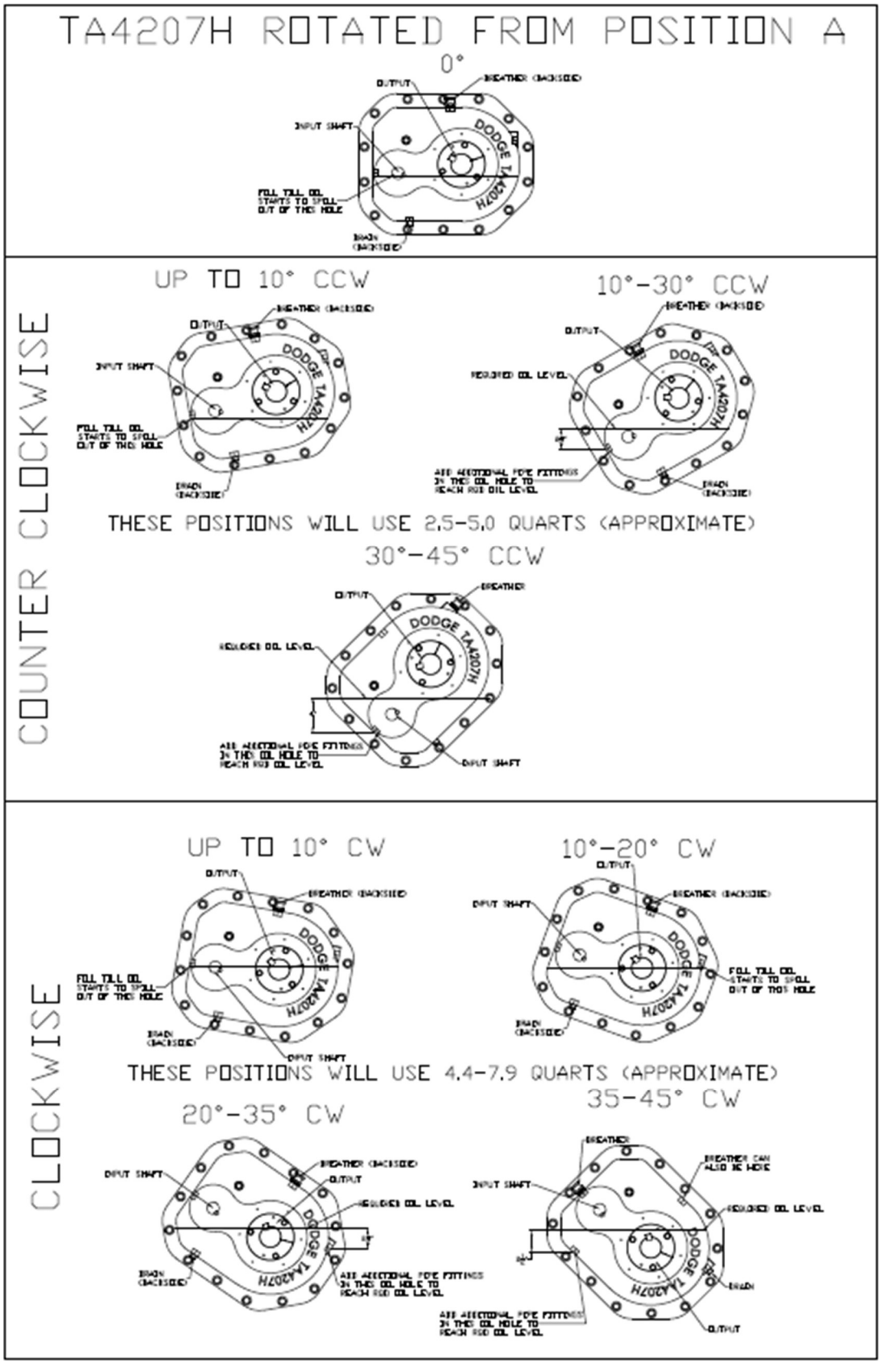

TA2115H ROTATED FROM POSITION D
0°
INPUT SHAFT
O/TPUT
DRAIN
COUNTER CLOCKWISE
UP TO 5° CCW
5°-15° CCW
THESE POSITIONS WILL USE 2.1-3.0 QUARTS (APPROXIMATE)
15°-30° CCW
30°-45° CCW
CLOCKWISE
UP TO 15° CW
15°-30° CW
THESE POSITIONS WILL USE 1.0-3.0 QUARTS (APPROXIMATE)
30°-45° CW

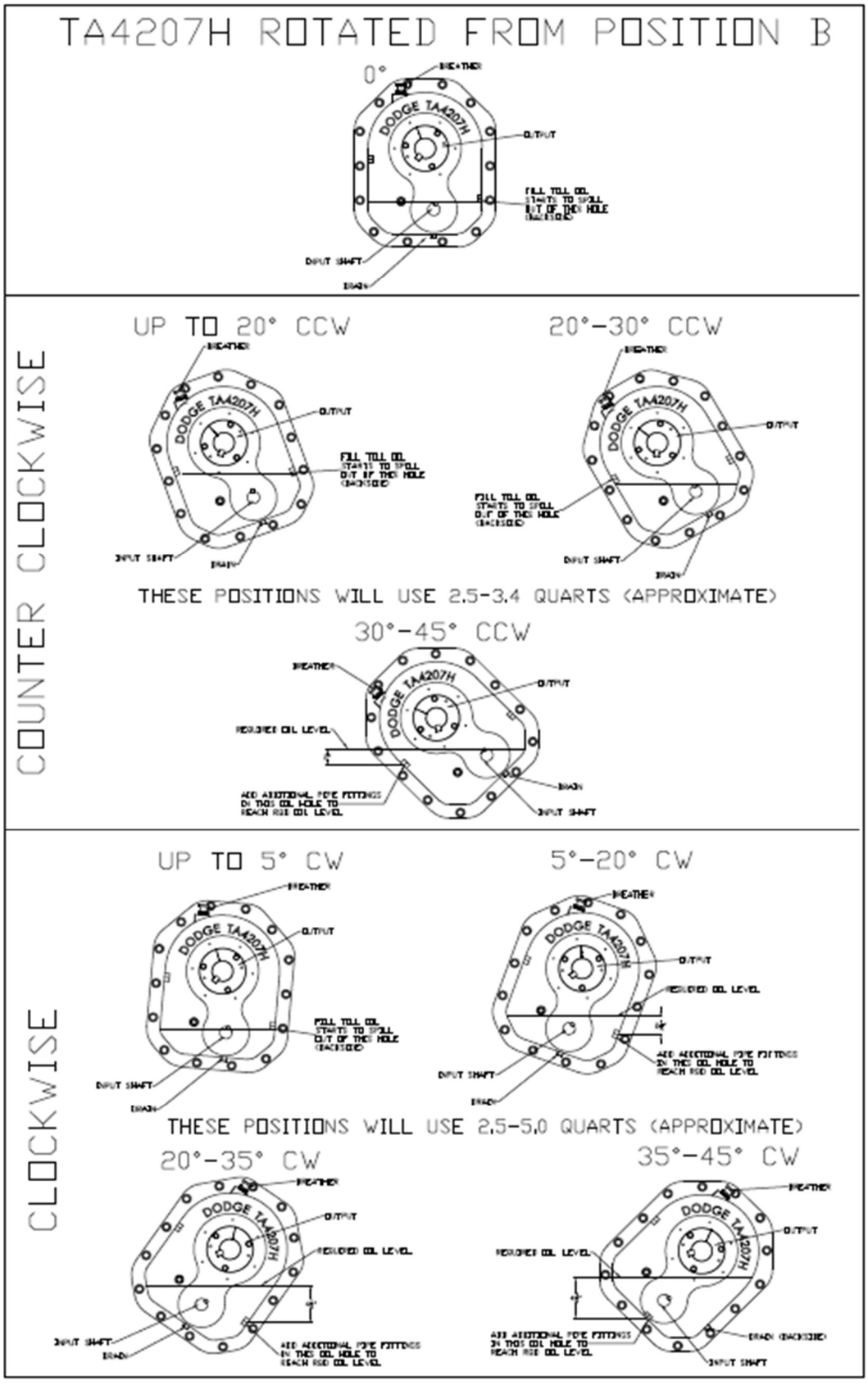

TA3203H ROTATED FROM POSITION A
0°
OUTPUT
BREATHER (BACKSIDE)
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE
DRAIN (BACKSIDE)
COUNTER CLOCKWISE
UP TO 10° CCW
10°-30° CCW
REQUIRED OIL LEVEL
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH RQD OIL LEVEL
THESE POSITIONS WILL USE 1.5-3.3 QUARTS (APPROXIMATE)
30°-45° CCW
CLOCKWISE
UP TO 10° CW
10°-20° CW
THESE POSITIONS WILL USE 2.8-4.5 QUARTS (APPROXIMATE)
20°-35° CW
35-45° CW
BREATHER CAN ALSO BE HERE

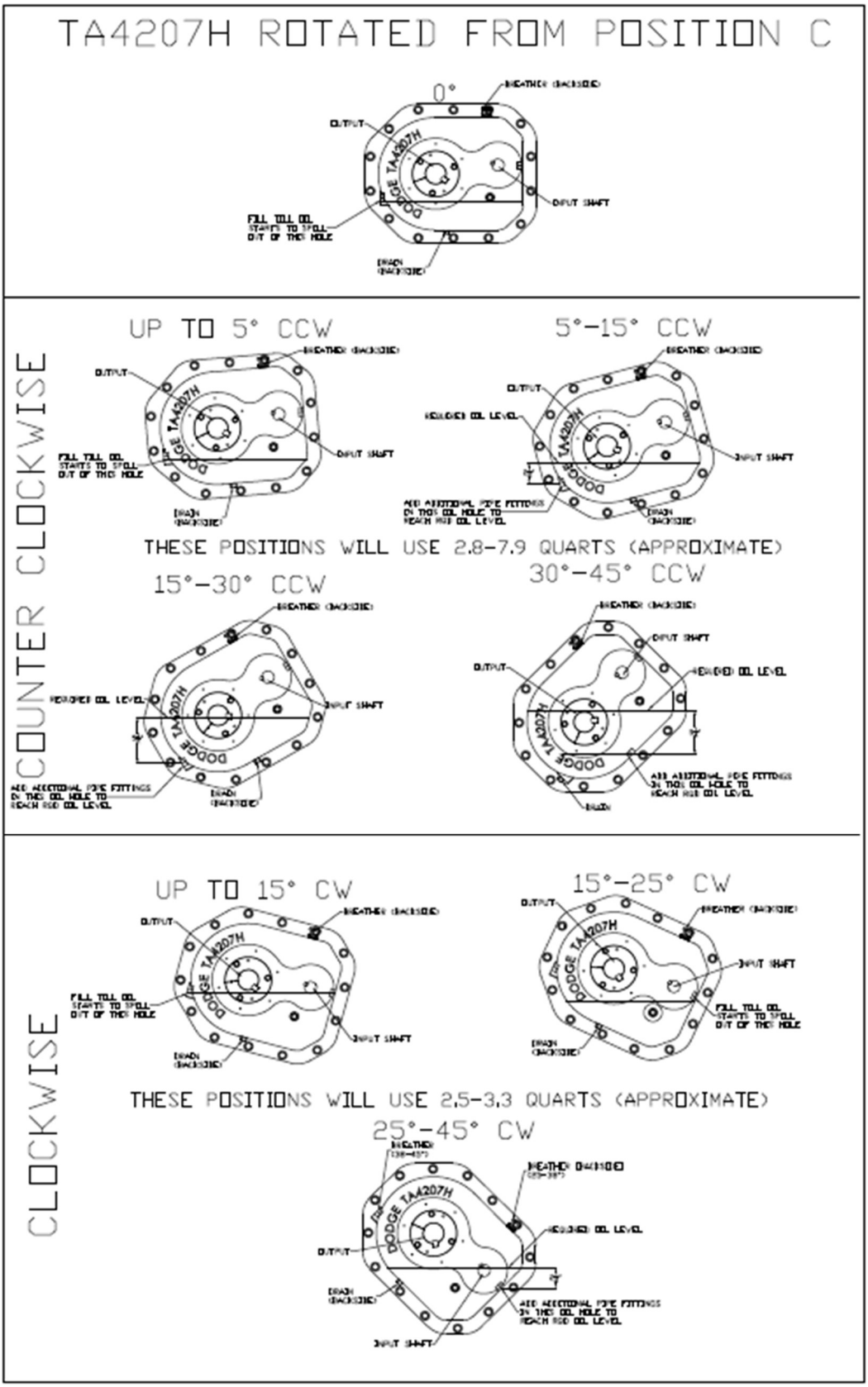

TA3203H ROTATED FROM POSITION B
0°
BREATHER
OUTPUT
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE (BACKSIDE)
INPUT SHAFT
DRAIN
COUNTER CLOCKWISE
UP TO 15° CCW
15°-30° CCW
THESE POSITIONS WILL USE 1.5-2.2 QUARTS (APPROXIMATE)
30°-45° CCW
CLOCKWISE
UP TO 5° CW
5°-20° CW
THESE POSITIONS WILL USE 1.5-3.3 QUARTS (APPROXIMATE)
20°-35° CW
35°-45° CW

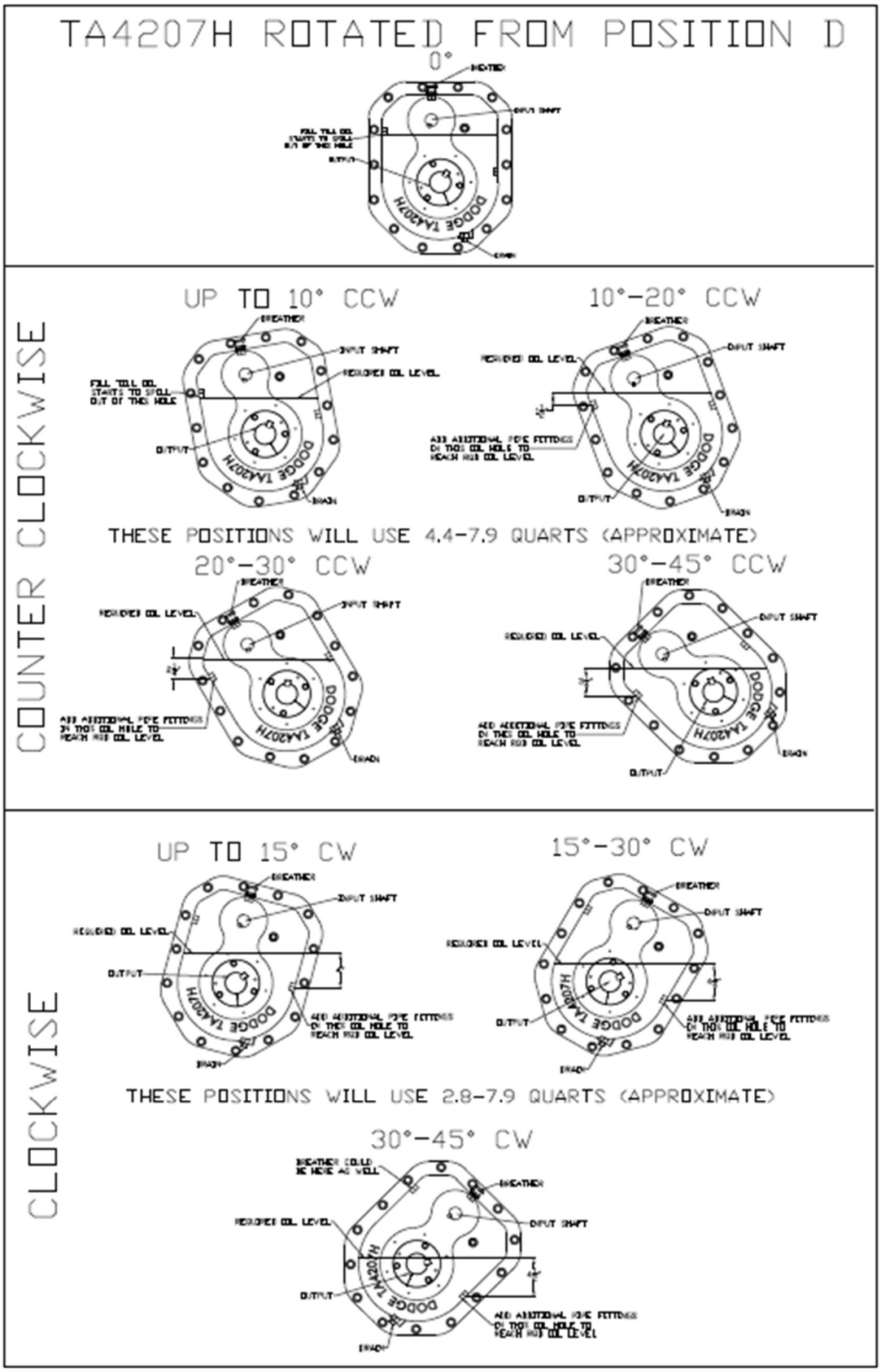

TA3203H ROTATED FROM POSITION C
0°
BREATHER (BACKSIDE)
O/TPUT
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL O/T OF THIS HOLE
DRAIN (BACKSIDE)
COUNTER CLOCKWISE
UP TO 5° CCW
5°-15° CCW
REQUIRED OIL LEVEL
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL
THESE POSITIONS WILL USE 1.7-4.5 QUARTS (APPROXIMATE)
15°-30° CCW
30°-45° CCW
CLOCKWISE
UP TO 10° CW
10°-25° CW
THESE POSITIONS WILL USE 1.5-2.2 QUARTS (APPROXIMATE)
25°-45° CW

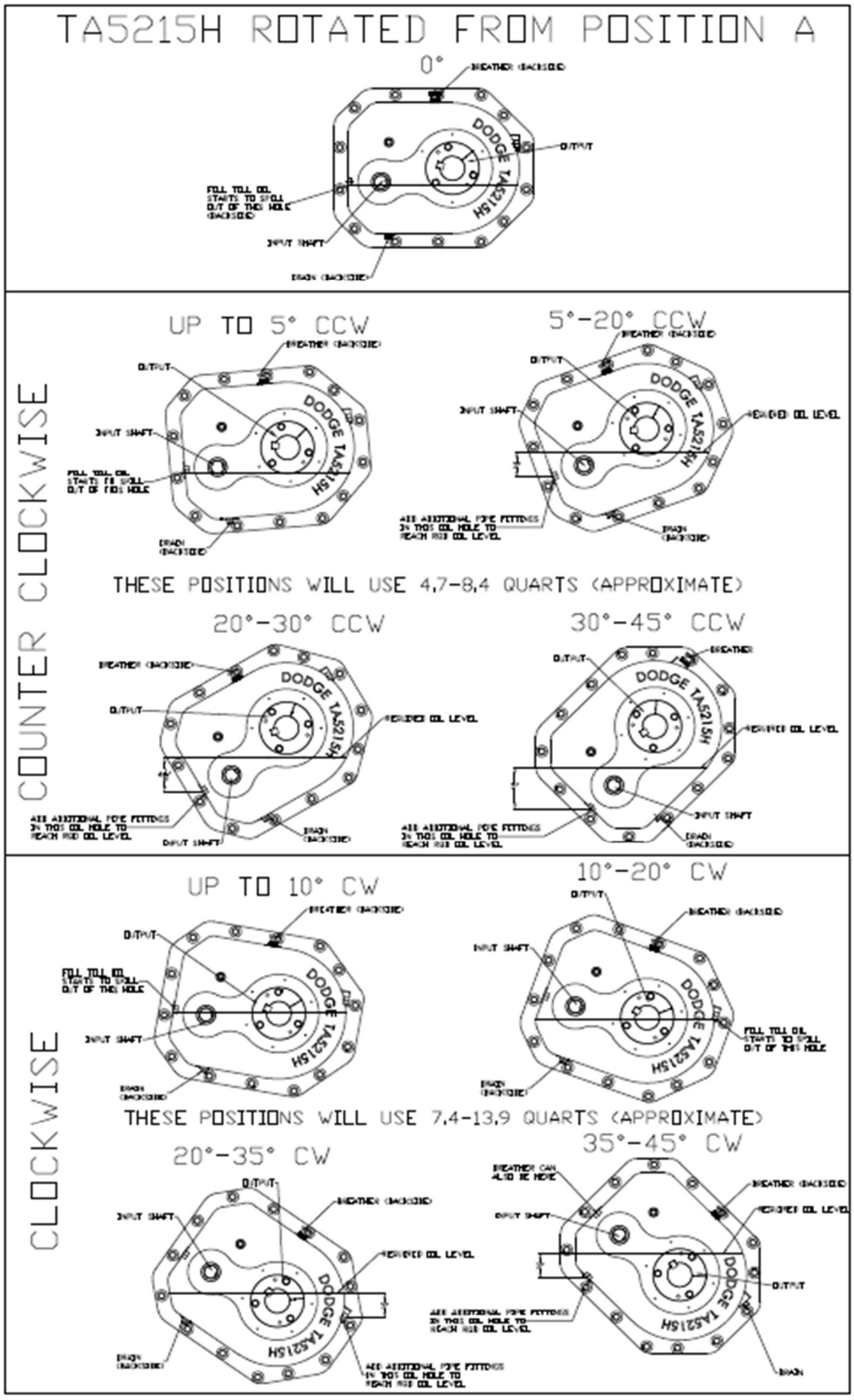

TA3203H ROTATED FROM POSITION D
0°
BREATHER
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL O/T OF THIS HOLE
O/TPUT
DRAIN
COUNTER CLOCKWISE
UP TO 10° CCW
10°-20° CCW
REQUIRED OIL LEVEL
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL
THESE POSITIONS WILL USE 2.8-4.5 QUARTS (APPROXIMATE)
20°-30° CCW
30°-45° CCW
CLOCKWISE
UP TO 15° CW
15°-30° CW
THESE POSITIONS WILL USE 1.7-4.5 QUARTS (APPROXIMATE)
30°-45° CW
BREATHER CAN BE MOVED AS WELL

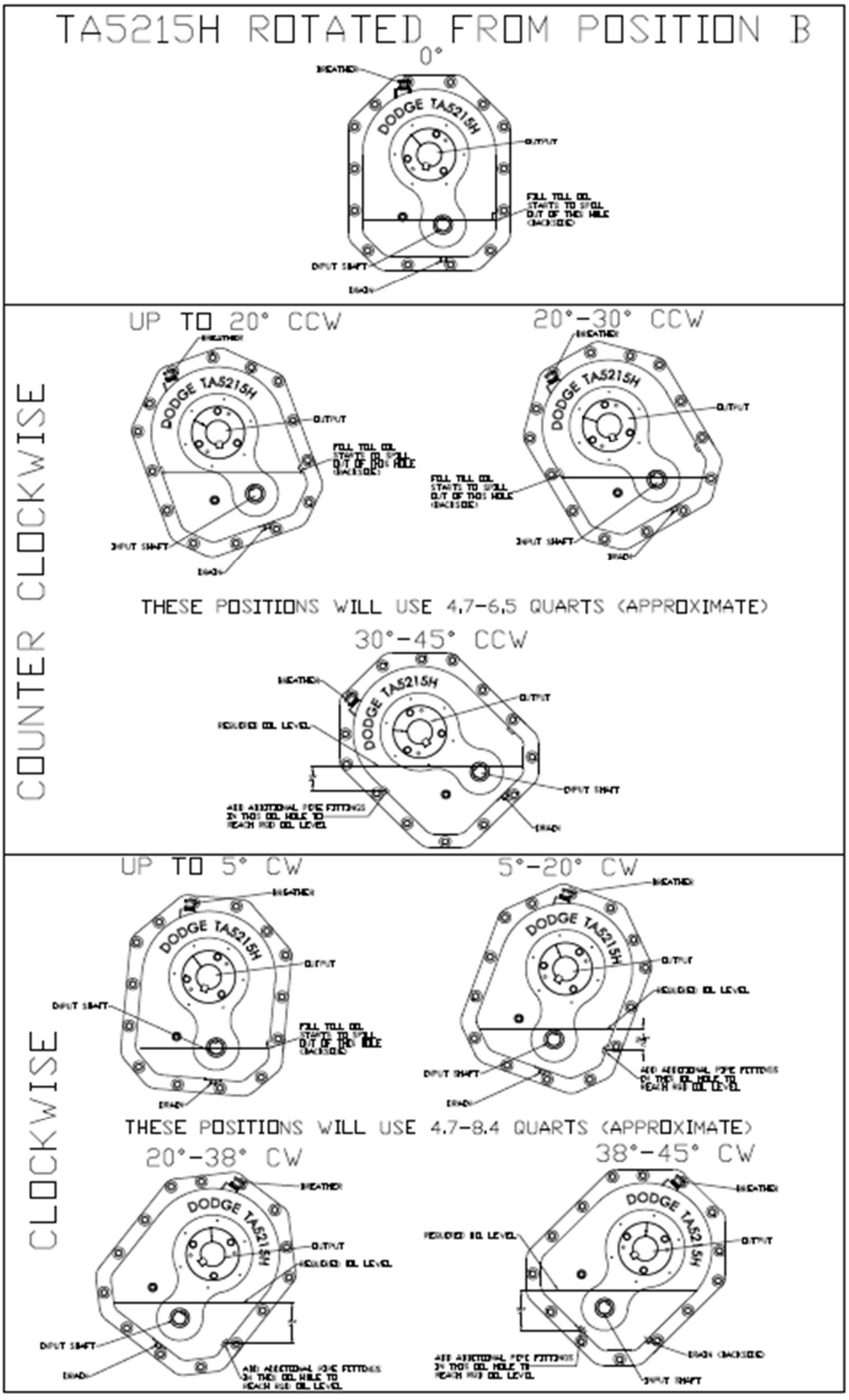

TA4207H ROTATED FROM POSITION A
0°
OUTPUT
BREATHER (BACKSIDE)
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE
DRAIN (BACKSIDE)
DODGE TA4207H
COUNTER CLOCKWISE
UP TO 10° CCW
10°-30° CCW
REQUIRED OIL LEVEL
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL
THESE POSITIONS WILL USE 2.5-5.0 QUARTS (APPROXIMATE)
30°-45° CCW
CLOCKWISE
UP TO 10° CW
10°-20° CW
THESE POSITIONS WILL USE 4.4-7.9 QUARTS (APPROXIMATE)
20°-35° CW
35-45° CW
BREATHER CAN ALSO BE MOVE

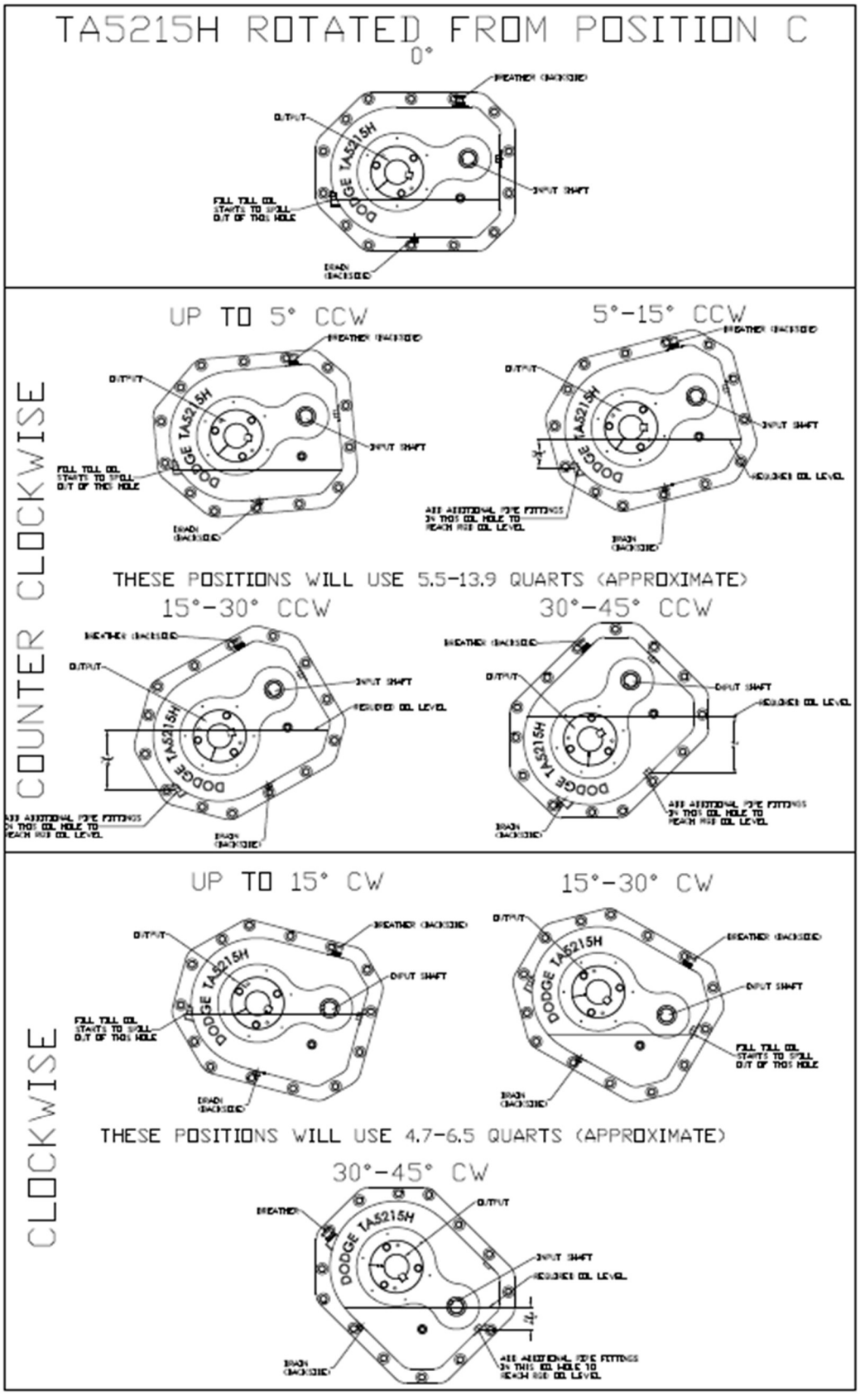

TA4207H ROTATED FROM POSITION B
0°
BREATHER
DODGE TA4207H
O/TPUT
FILL TOLL OIL STARTS TO SPILL OUT OF THIS HOLE (BACKSIDE)
INPUT SHAFT
DRAIN
COUNTER CLOCKWISE
UP TO 20° CCW
20°-30° CCW
THESE POSITIONS WILL USE 2.5-3.4 QUARTS (APPROXIMATE)
30°-45° CCW
REQUIRED OIL LEVEL
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH RQD OIL LEVEL
CLOCKWISE
UP TO 5° CW
5°-20° CW
THESE POSITIONS WILL USE 2.5-5.0 QUARTS (APPROXIMATE)
20°-35° CW
35°-45° CW

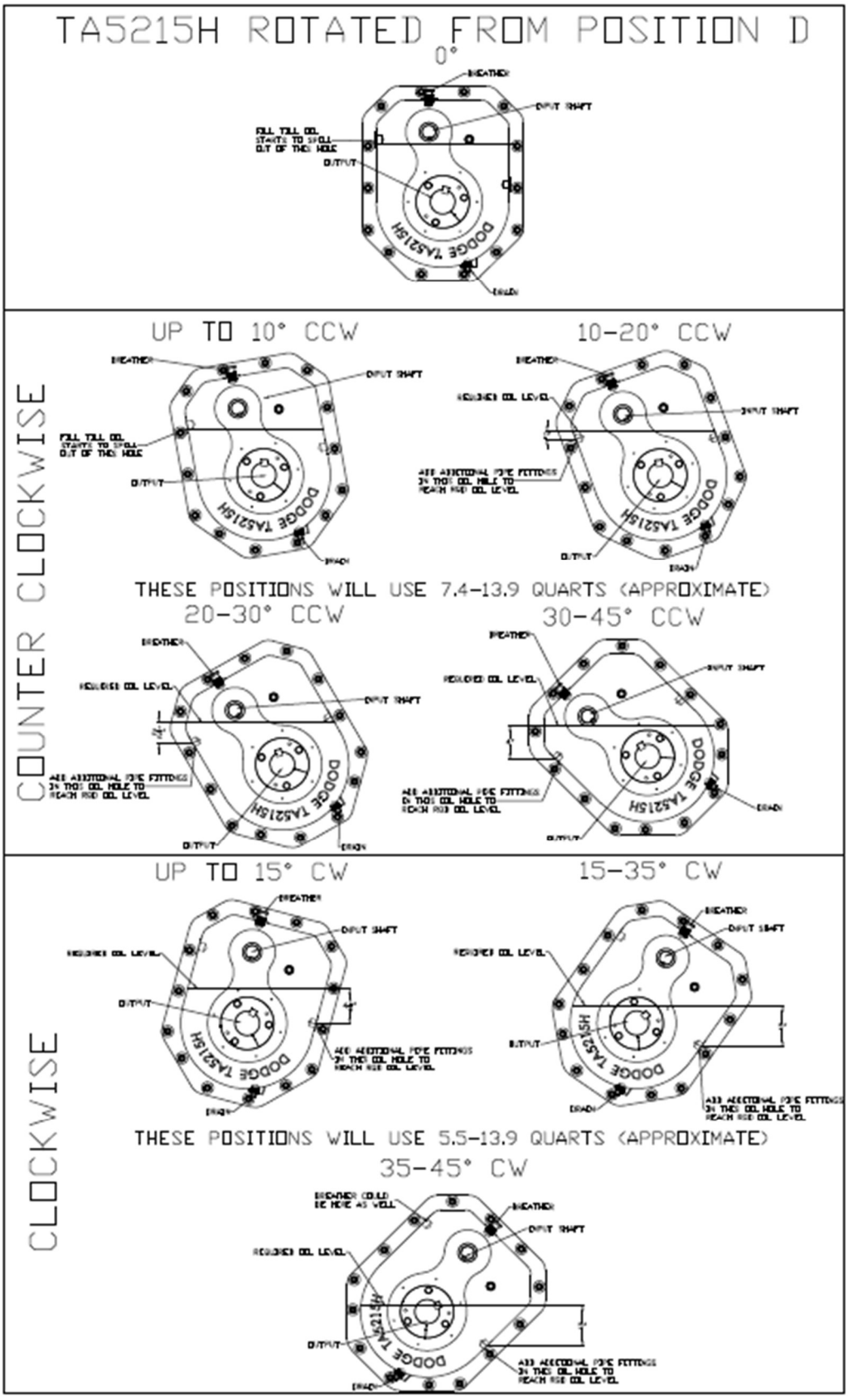

TA4207H ROTATED FROM POSITION C
0°
OUTPUT
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE
DRAIN
COUNTER CLOCKWISE
UP TO 5° CCW
5°–15° CCW
THESE POSITIONS WILL USE 2.8–7.9 QUARTS (APPROXIMATE)
15°–30° CCW
30°–45° CCW
CLOCKWISE
UP TO 15° CW
15°–25° CW
THESE POSITIONS WILL USE 2.5–3.3 QUARTS (APPROXIMATE)
25°–45° CW

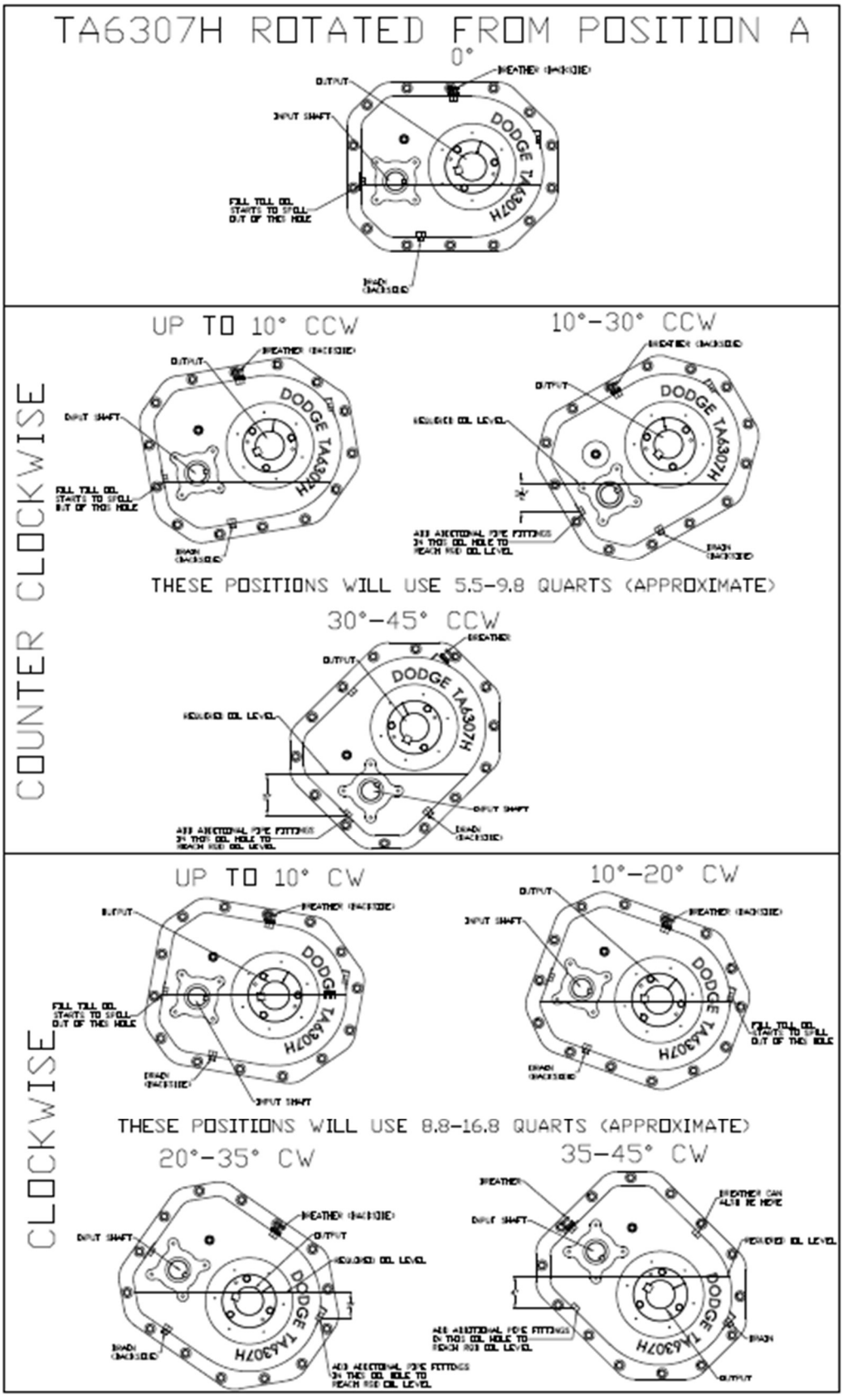

TA4207H ROTATED FROM POSITION D
0°
UP TO 10° CCW
10°–20° CCW
THESE POSITIONS WILL USE 4.4–7.9 QUARTS (APPROXIMATE)
20°–30° CCW
30°–45° CCW
COUNTER CLOCKWISE
UP TO 15° CW
15°–30° CW
THESE POSITIONS WILL USE 2.8–7.9 QUARTS (APPROXIMATE)
30°–45° CW
CLOCKWISE

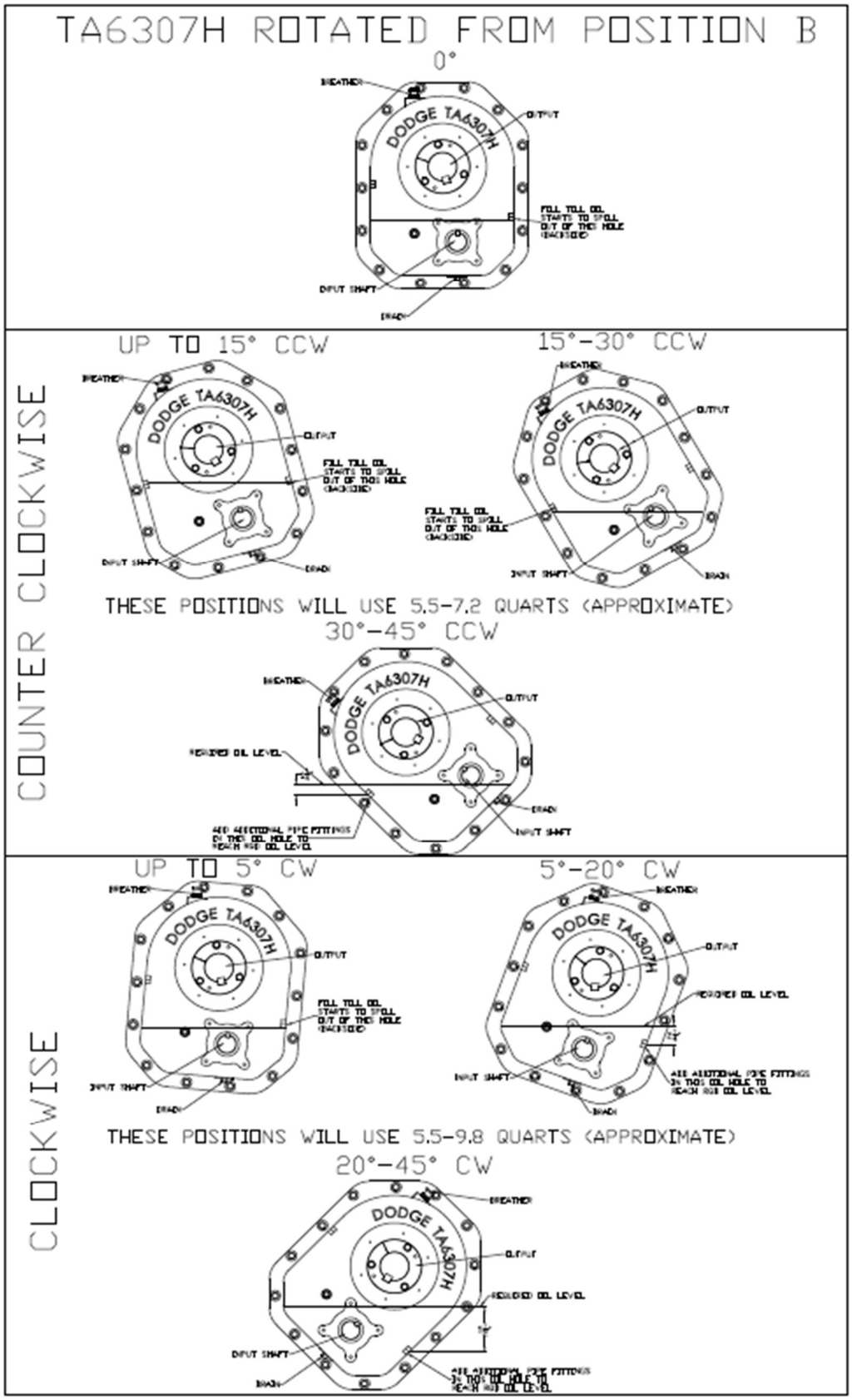

TA5215H ROTATED FROM POSITION A
0°
BREATHER (BACKSIDE)
O/TPUT
FILL TILL OIL STARTS TO SPILL O/T OF THIS HOLE (BACKSIDE)
INPUT SHAFT
DRAIN (BACKSIDE)
COUNTER CLOCKWISE
UP TO 5° CCW
5°-20° CCW
THESE POSITIONS WILL USE 4,7-8,4 QUARTS (APPROXIMATE)
20°-30° CCW
30°-45° CCW
CLOCKWISE
UP TO 10° CW
10°-20° CW
THESE POSITIONS WILL USE 7,4-13,9 QUARTS (APPROXIMATE)
20°-35° CW
35°-45° CW
BREATHER CAN ALSO BE HERE

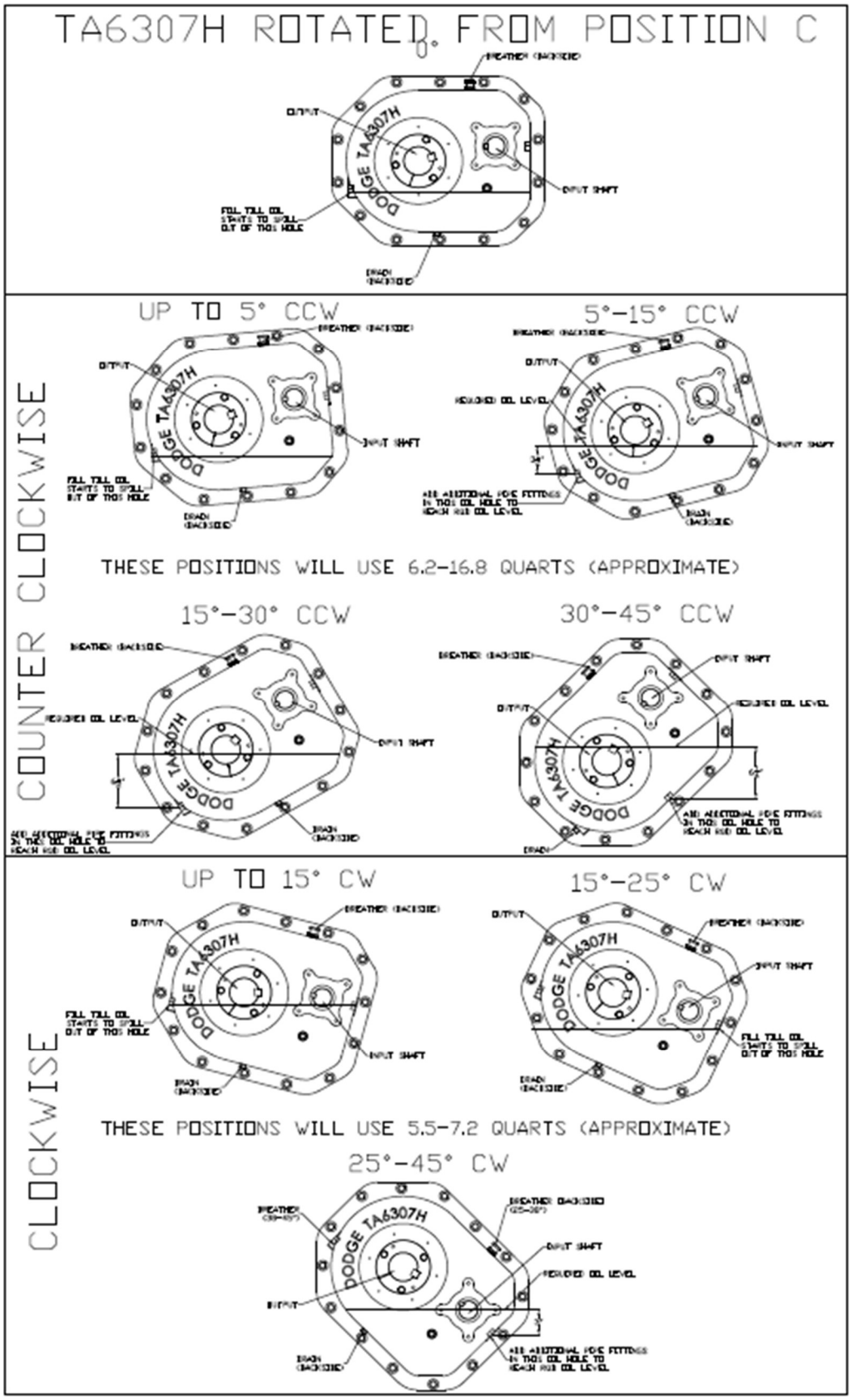

TA5215H ROTATED FROM POSITION B
0°
DODGE TA5215H
BREATHER
O/TPUT
FILL TILL OIL STARTS TO SPILL O/T OF THIS HOLE (BACKSIDE)
INPUT SHAFT
DRAIN
COUNTER CLOCKWISE
UP TO 20° CCW
20°-30° CCW
THESE POSITIONS WILL USE 4.7-6.5 QUARTS (APPROXIMATE)
30°-45° CCW
CLOCKWISE
UP TO 5° CW
5°-20° CW
THESE POSITIONS WILL USE 4.7-8.4 QUARTS (APPROXIMATE)
20°-38° CW
38°-45° CW

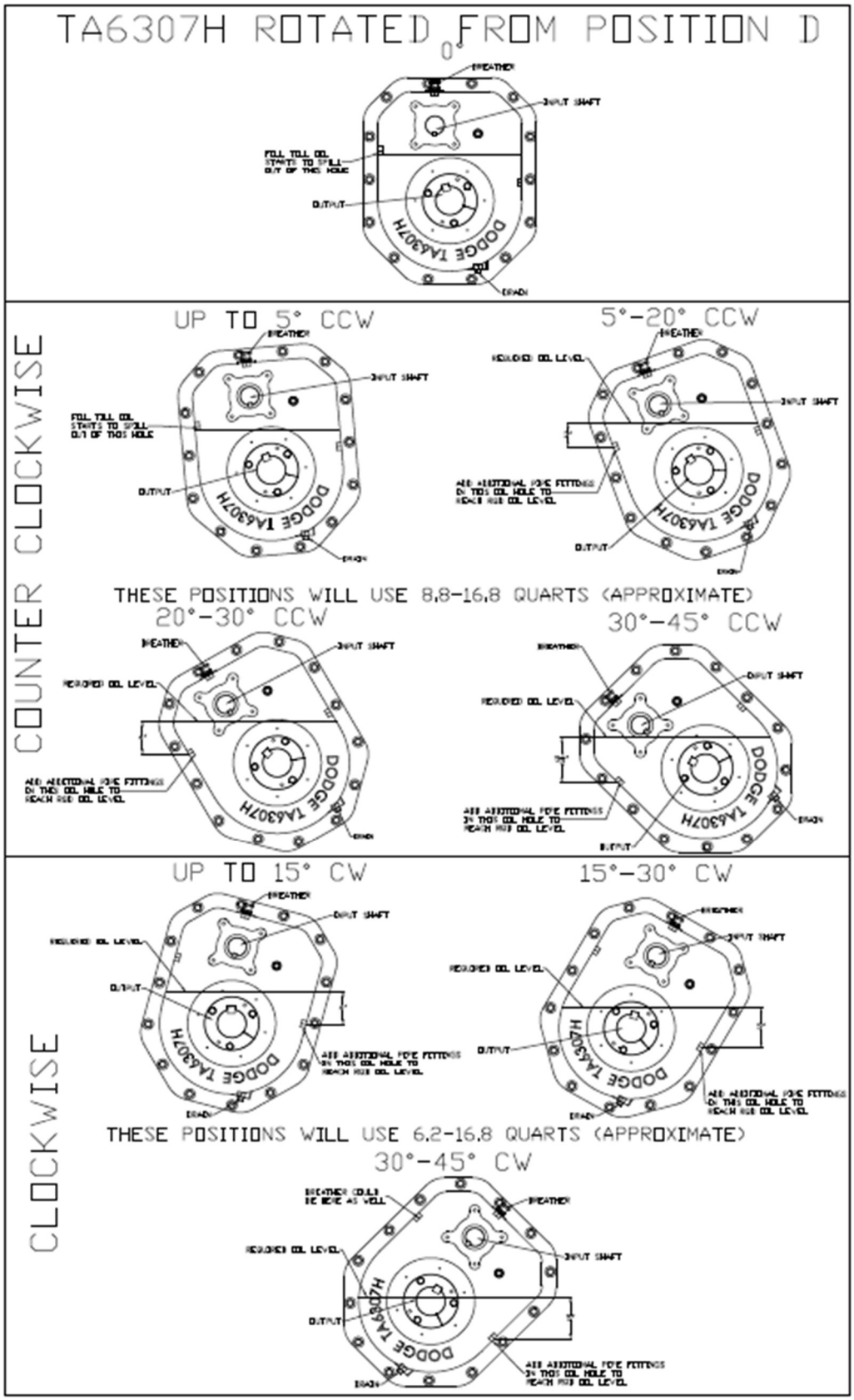

TA5215H ROTATED FROM POSITION C
0°
BREATHER (BACKSIDE)
O/TPUT
DODGE TA5215H
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL O/T OF THIS HOLE
DRAIN (BACKSIDE)
COUNTER CLOCKWISE
UP TO 5° CCW
5°-15° CCW
REQUIRED OIL LEVEL
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL
THESE POSITIONS WILL USE 5.5-13.9 QUARTS (APPROXIMATE)
15°-30° CCW
30°-45° CCW
CLOCKWISE
UP TO 15° CW
15°-30° CW
THESE POSITIONS WILL USE 4.7-6.5 QUARTS (APPROXIMATE)
30°-45° CW

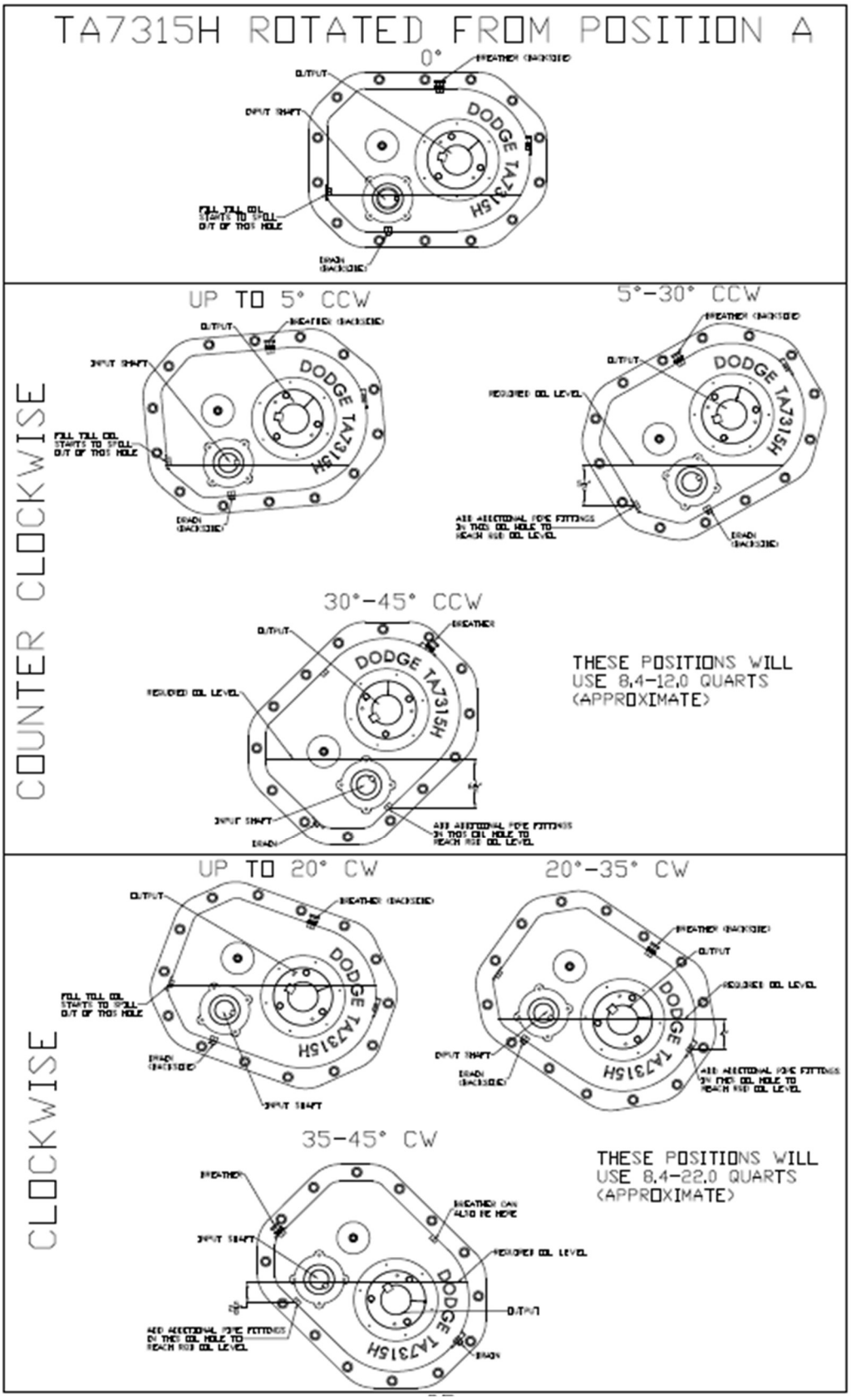

TA5215H ROTATED FROM POSITION D
0°
BREATHER
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE
O/TPUT
DRAIN
COUNTER CLOCKWISE
UP TO 10° CCW
10-20° CCW
REQUIRED OIL LEVEL
ADD ADDITIONAL PIPE FITTINGS TO THIS OIL HOLE TO REACH REQ OIL LEVEL
THESE POSITIONS WILL USE 7.4-13.9 QUARTS (APPROXIMATE)
20-30° CCW
30-45° CCW
CLOCKWISE
UP TO 15° CW
15-35° CW
THESE POSITIONS WILL USE 5.5-13.9 QUARTS (APPROXIMATE)
35-45° CW

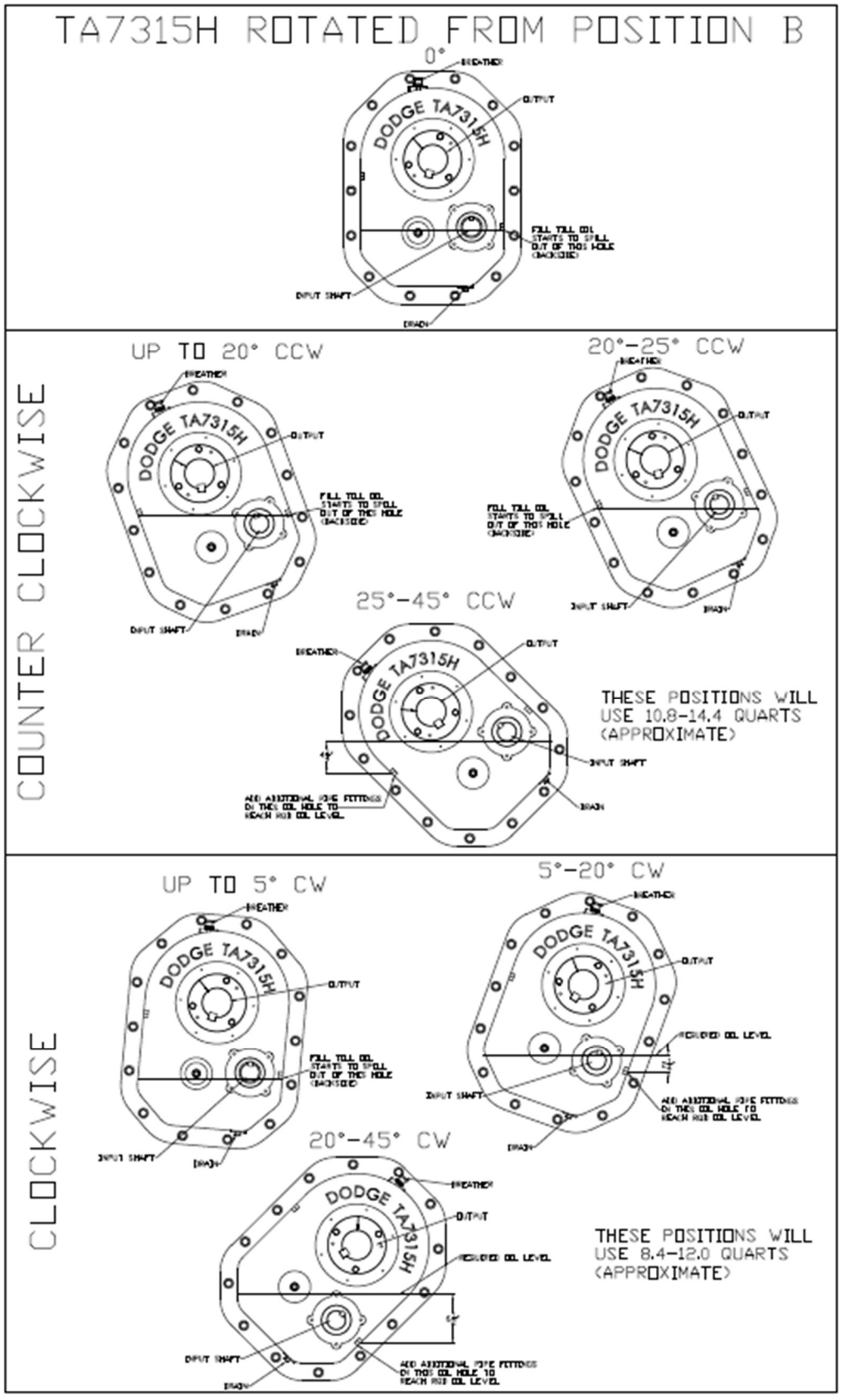

TA6307H ROTATED FROM POSITION A
0°
OUTPUT
BREATHER (BACKSIDE)
INPUT SHAFT
DODGE TA6307H
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE
DRAIN (BACKSIDE)
COUNTER CLOCKWISE
UP TO 10° CCW
10°-30° CCW
THESE POSITIONS WILL USE 5.5-9.8 QUARTS (APPROXIMATE)
30°-45° CCW
CLOCKWISE
UP TO 10° CW
10°-20° CW
THESE POSITIONS WILL USE 8.8-16.8 QUARTS (APPROXIMATE)
20°-35° CW
35-45° CW

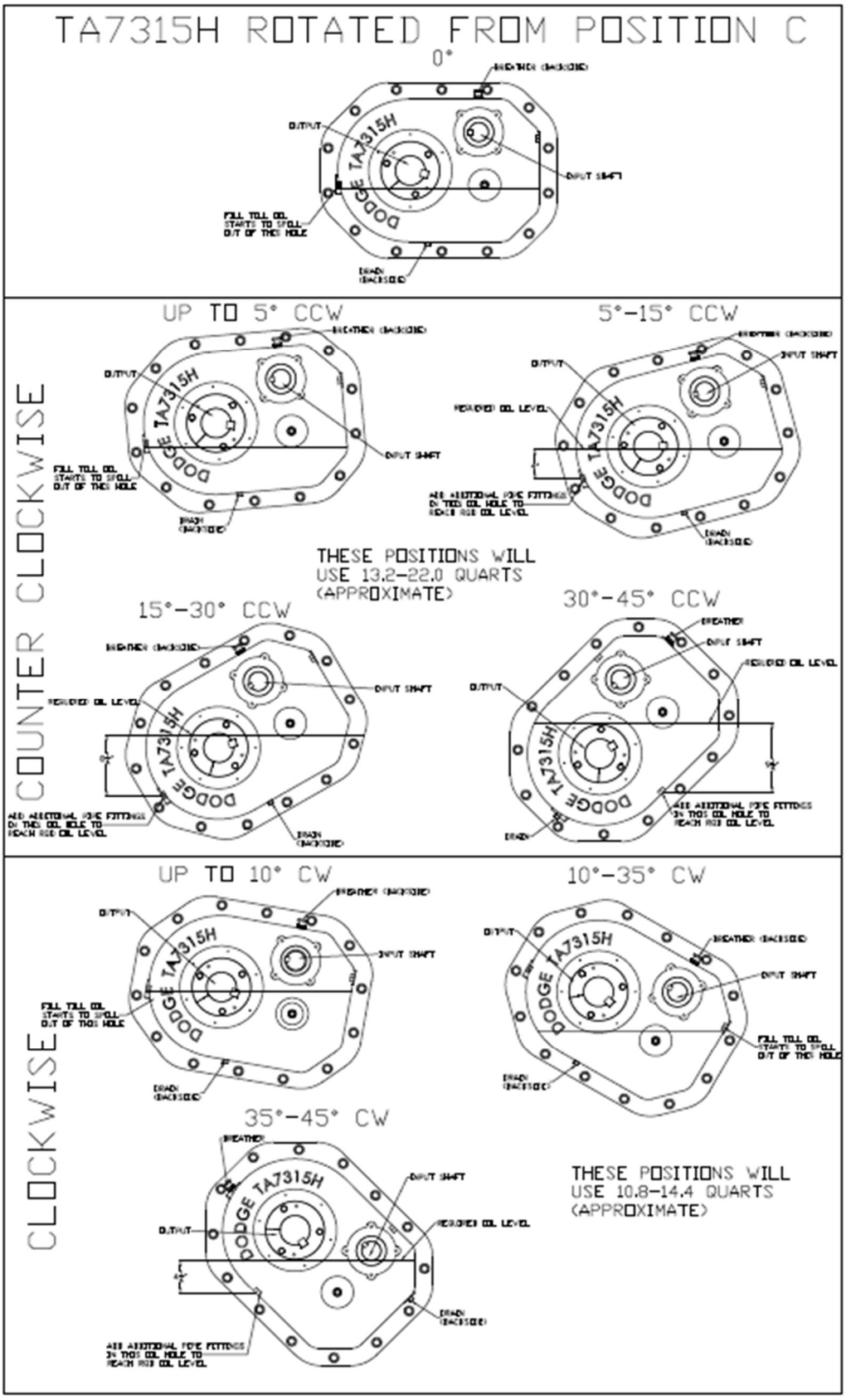

TA6307H ROTATED FROM POSITION B
0°
DODGE TA6307H
COUNTER CLOCKWISE
UP TO 15° CCW
15°–30° CCW
THESE POSITIONS WILL USE 5.5–7.2 QUARTS (APPROXIMATE)
30°–45° CCW
CLOCKWISE
UP TO 5° CW
5°–20° CW
THESE POSITIONS WILL USE 5.5–9.8 QUARTS (APPROXIMATE)
20°–45° CW

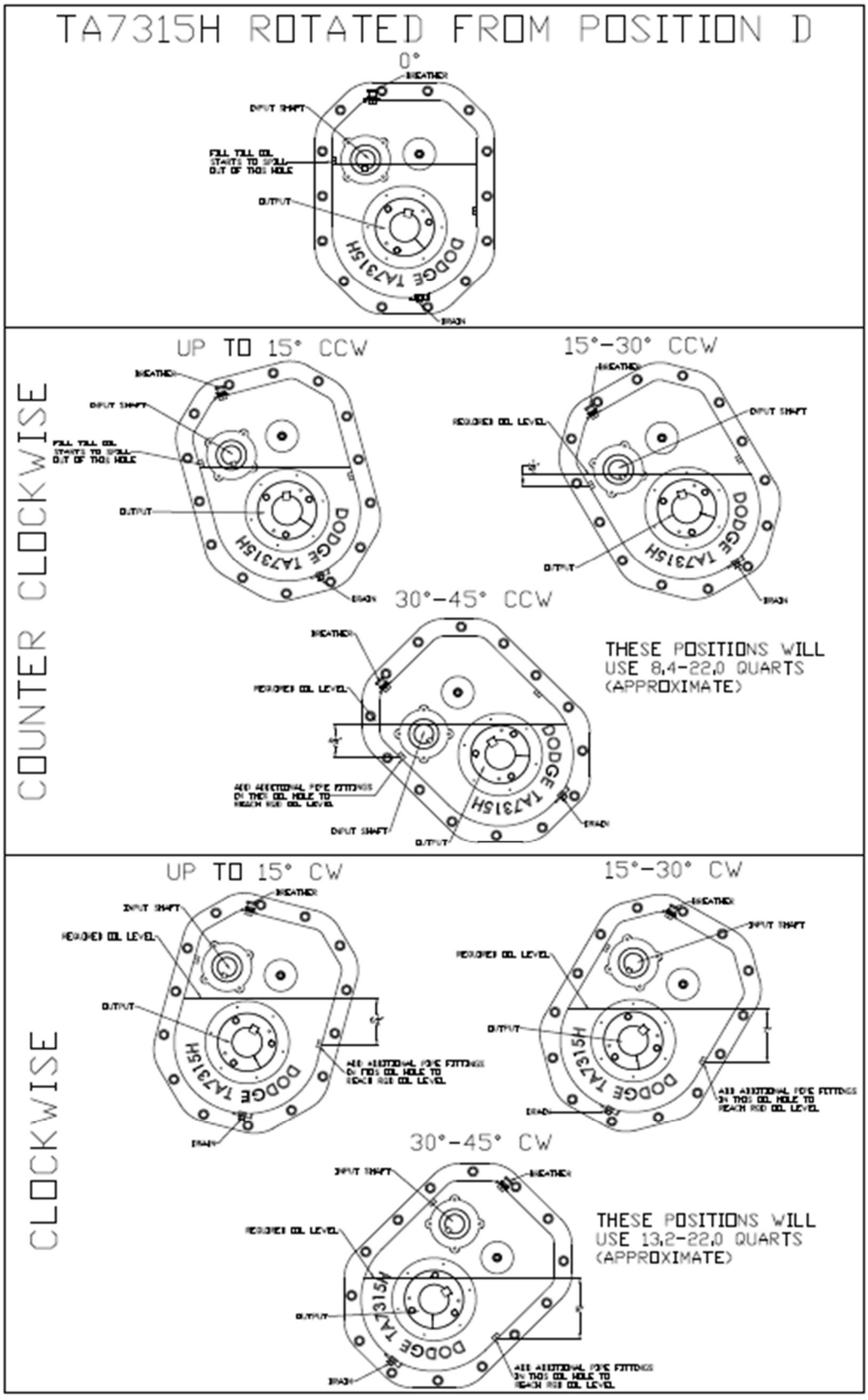

TA6307H ROTATED 0° FROM POSITION C
COUNTER CLOCKWISE
UP TO 5° CCW
5°–15° CCW
THESE POSITIONS WILL USE 6.2–16.8 QUARTS (APPROXIMATE)
15°–30° CCW
30°–45° CCW
CLOCKWISE
UP TO 15° CW
15°–25° CW
THESE POSITIONS WILL USE 5.5–7.2 QUARTS (APPROXIMATE)
25°–45° CW
DODGE TA6307H
OUTPUT
INPUT SHAFT
BREATHER (BACKSIDE)
DRAIN (BACKSIDE)

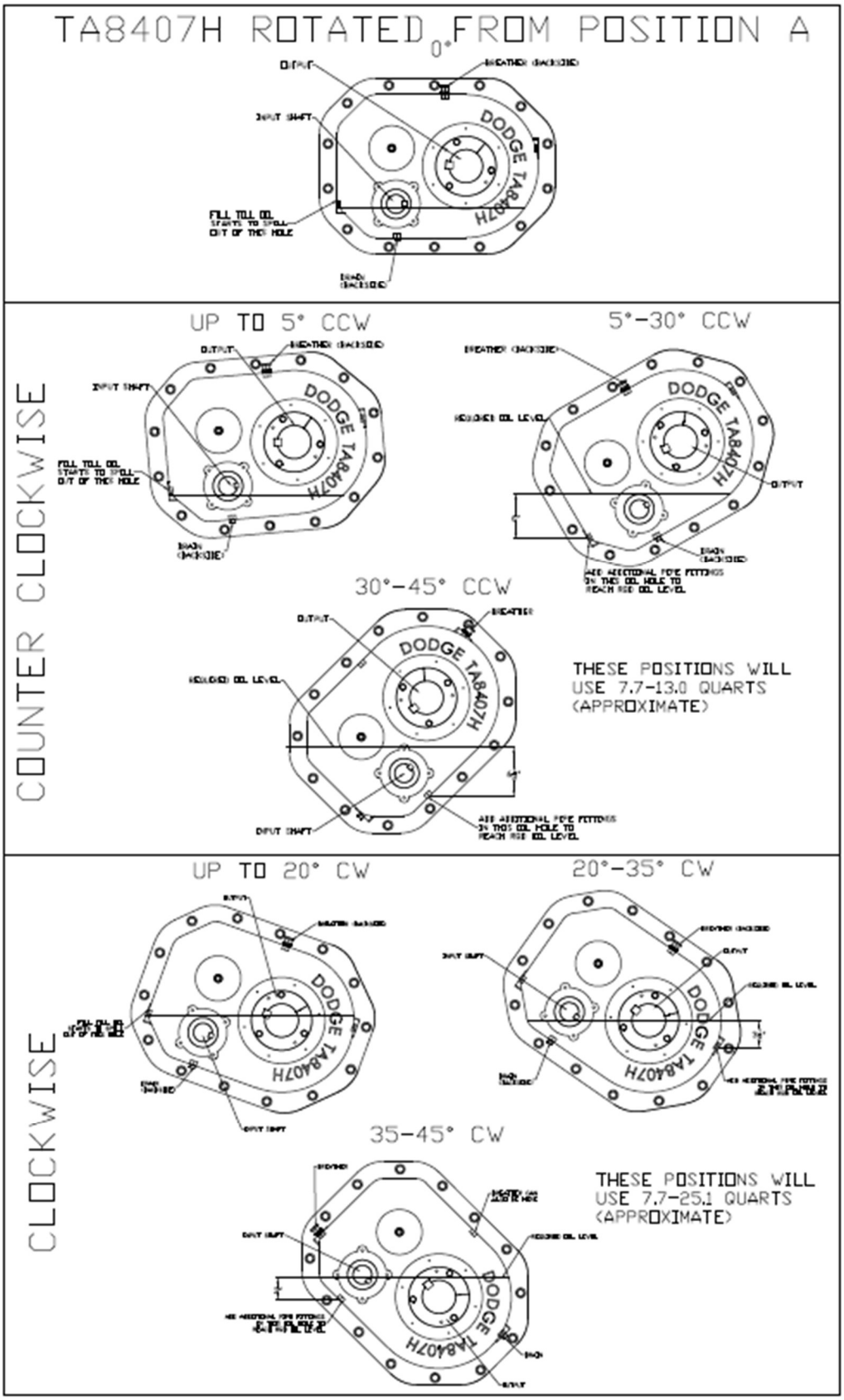

TA6307H ROTATED FROM POSITION D
0°
BREATHER
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE
O/PUT
DRAIN
DODGE TA6307H
COUNTER CLOCKWISE
UP TO 5° CCW
5°-20° CCW
REQUIRED OIL LEVEL
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL
THESE POSITIONS WILL USE 8.8-16.8 QUARTS (APPROXIMATE)
20°-30° CCW
30°-45° CCW
CLOCKWISE
UP TO 15° CW
15°-30° CW
THESE POSITIONS WILL USE 6.2-16.8 QUARTS (APPROXIMATE)
30°-45° CW
BREATHER COULD BE HERE AS WELL

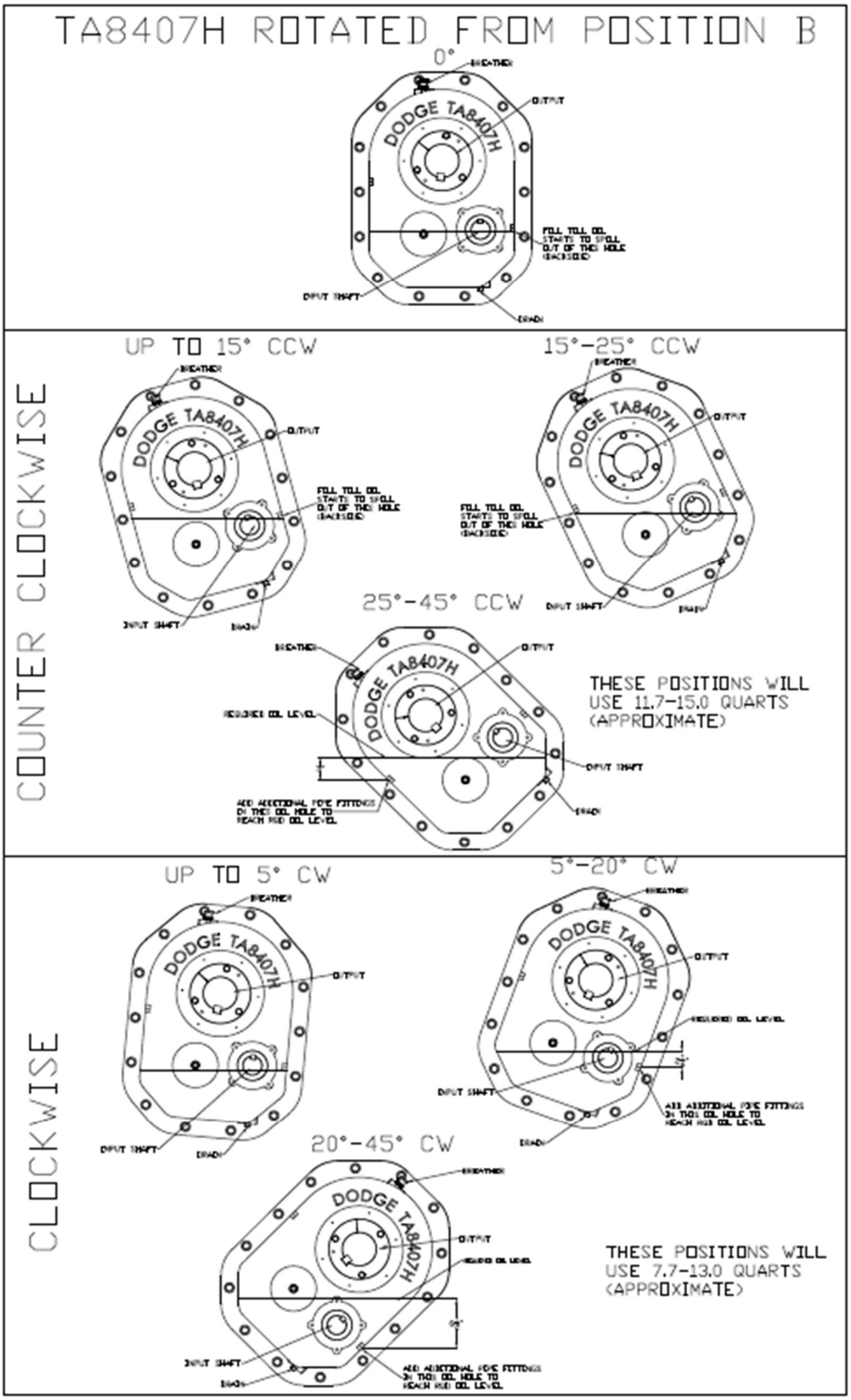

TA7315H ROTATED FROM POSITION A
0°
OUTPUT
INPUT SHAFT
DRAIN
UP TO 5° CCW
5°-30° CCW
30°-45° CCW
COUNTER CLOCKWISE
THESE POSITIONS WILL USE 8.4-12.0 QUARTS (APPROXIMATE)
UP TO 20° CW
20°-35° CW
35-45° CW
CLOCKWISE
THESE POSITIONS WILL USE 8.4-22.0 QUARTS (APPROXIMATE)

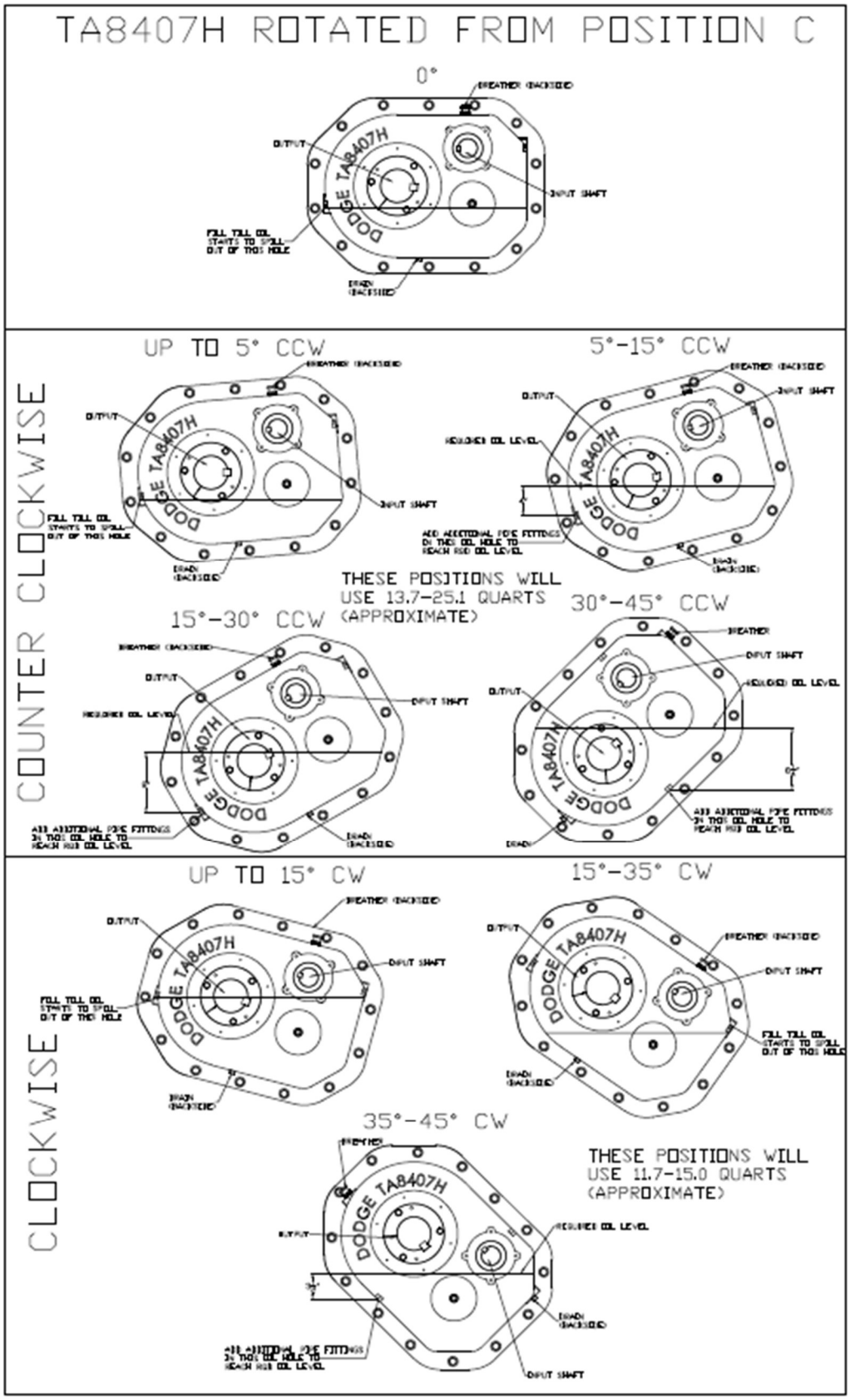

TA7315H ROTATED FROM POSITION B
0°
BREATHER
O/TPUT
DODGE TA7315H
FILL TILL OIL STARTS TO SPILL O/T OF THIS HOLE (BACKSIDE)
INPUT SHAFT
DRAIN
COUNTER CLOCKWISE
UP TO 20° CCW
20°-25° CCW
25°-45° CCW
THESE POSITIONS WILL USE 10.8-14.4 QUARTS (APPROXIMATE)
CLOCKWISE
UP TO 5° CW
5°-20° CW
20°-45° CW
THESE POSITIONS WILL USE 8.4-12.0 QUARTS (APPROXIMATE)

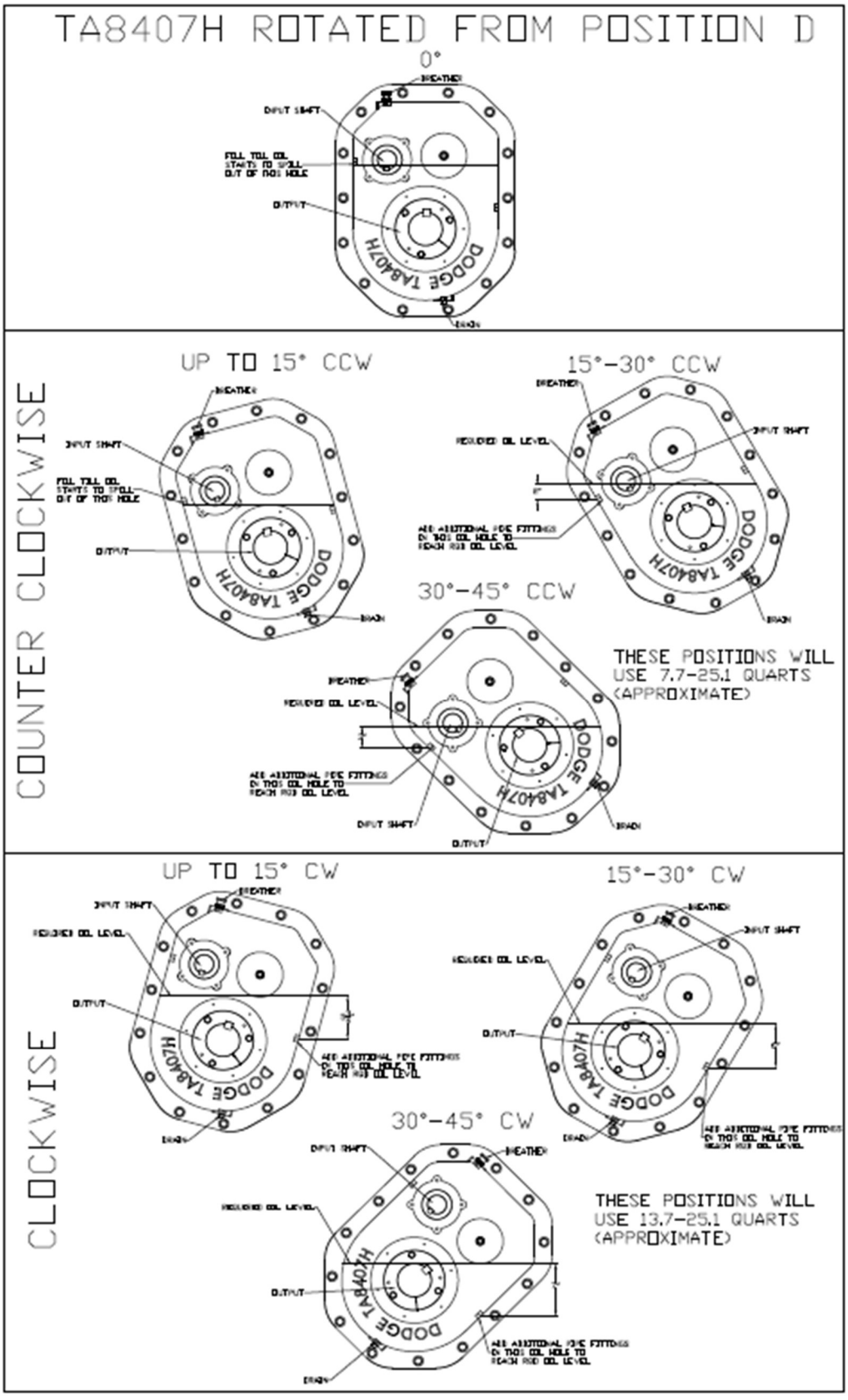

TA7315H ROTATED FROM POSITION C
0°
UP TO 5° CCW
5°–15° CCW
THESE POSITIONS WILL
USE 13.2–22.0 QUARTS
(APPROXIMATE)
15°–30° CCW
30°–45° CCW
COUNTER CLOCKWISE
UP TO 10° CW
10°–35° CW
35°–45° CW
CLOCKWISE
THESE POSITIONS WILL
USE 10.8–14.4 QUARTS
(APPROXIMATE)

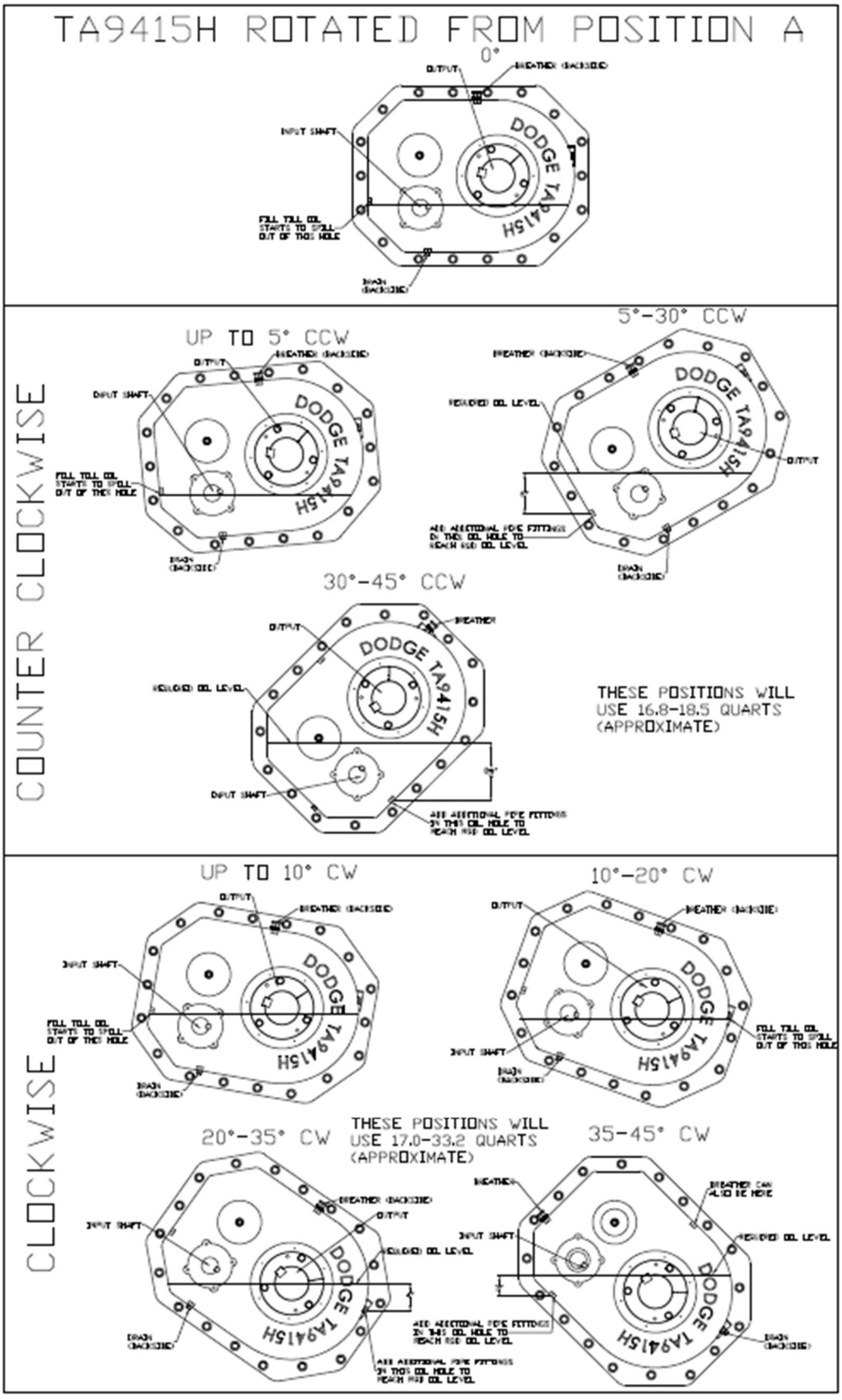

TA7315H ROTATED FROM POSITION D
0°
BREATHER
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE
OUTPUT
DRAIN
DODGE TA7315H
COUNTER CLOCKWISE
UP TO 15° CCW
15°-30° CCW
30°-45° CCW
REQUIRED OIL LEVEL
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH RQD OIL LEVEL
THESE POSITIONS WILL USE 8.4-22.0 QUARTS (APPROXIMATE)
CLOCKWISE
UP TO 15° CW
15°-30° CW
30°-45° CW
THESE POSITIONS WILL USE 13.2-22.0 QUARTS (APPROXIMATE)

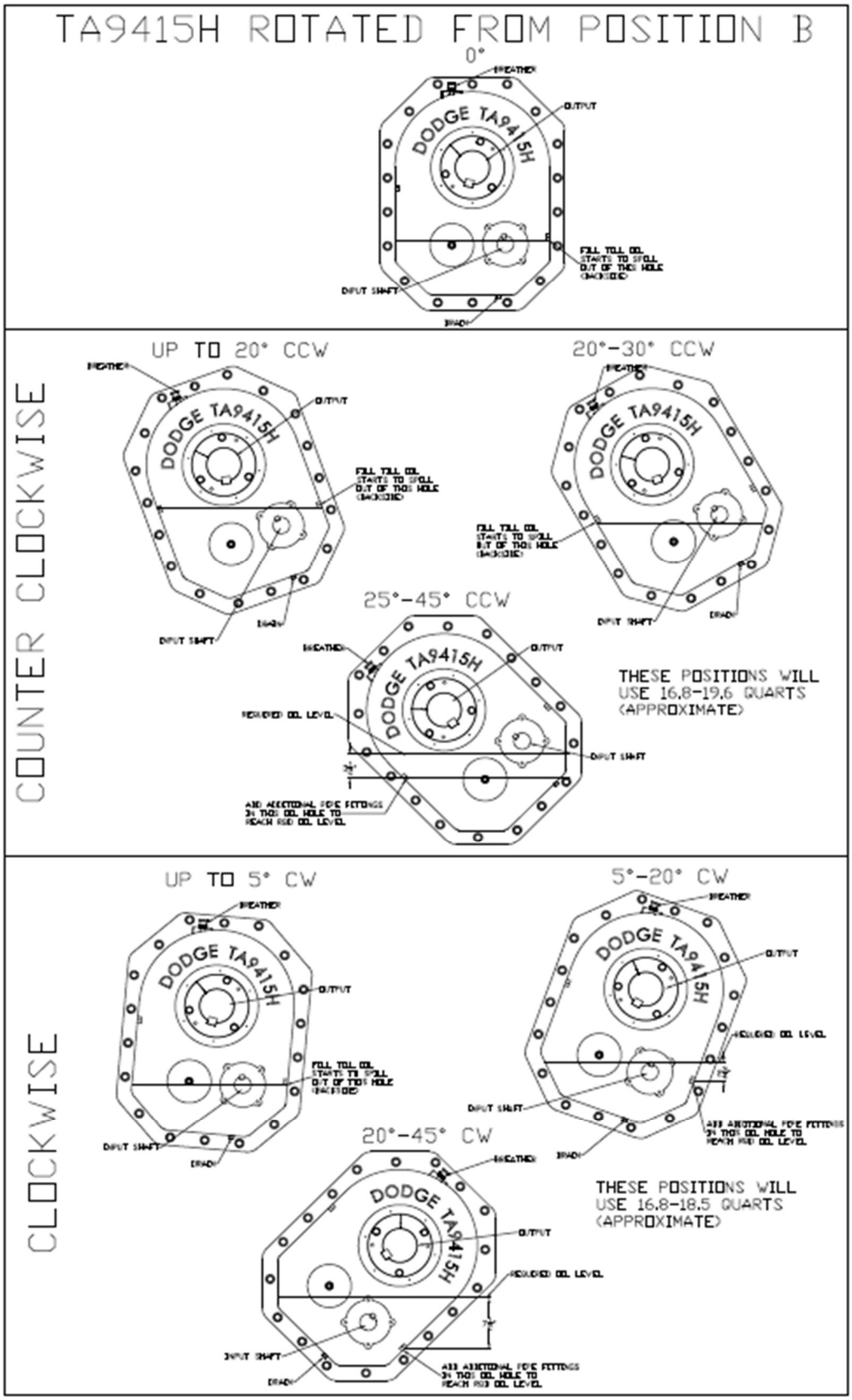

TA8407H ROTATED 0° FROM POSITION A
COUNTER CLOCKWISE
UP TO 5° CCW
5°-30° CCW
30°-45° CCW
THESE POSITIONS WILL USE 7.7-13.0 QUARTS (APPROXIMATE)
CLOCKWISE
UP TO 20° CW
20°-35° CW
35-45° CW
THESE POSITIONS WILL USE 7.7-25.1 QUARTS (APPROXIMATE)

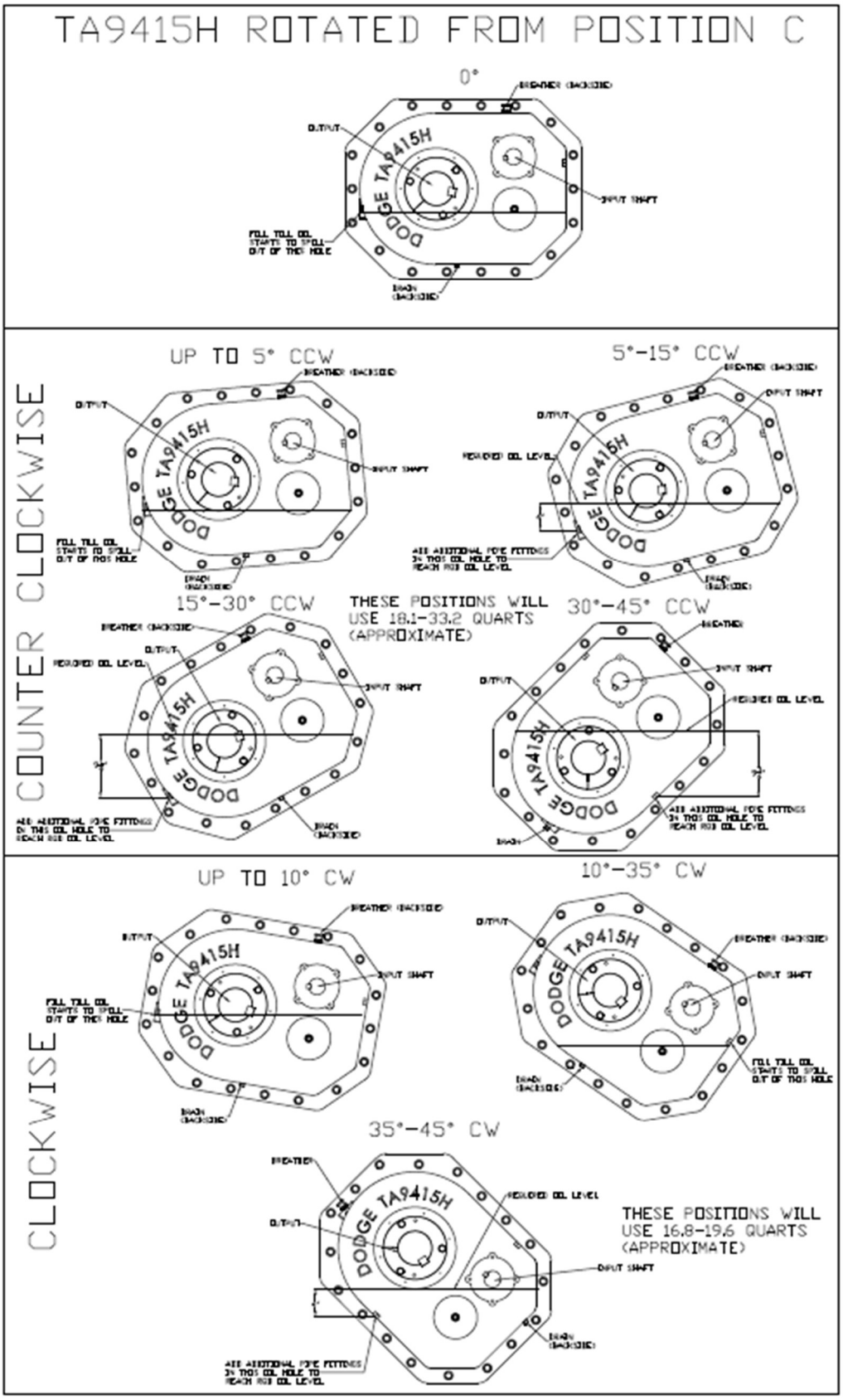

TA8407H ROTATED FROM POSITION B
0°
DODGE TA8407H
BREATHER
OUTPUT
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE (BACKSIDE)
INPUT SHAFT
DRAIN
COUNTER CLOCKWISE
UP TO 15° CCW
15°-25° CCW
25°-45° CCW
THESE POSITIONS WILL USE 11.7-15.0 QUARTS (APPROXIMATE)
CLOCKWISE
UP TO 5° CW
5°-20° CW
20°-45° CW
THESE POSITIONS WILL USE 7.7-13.0 QUARTS (APPROXIMATE)

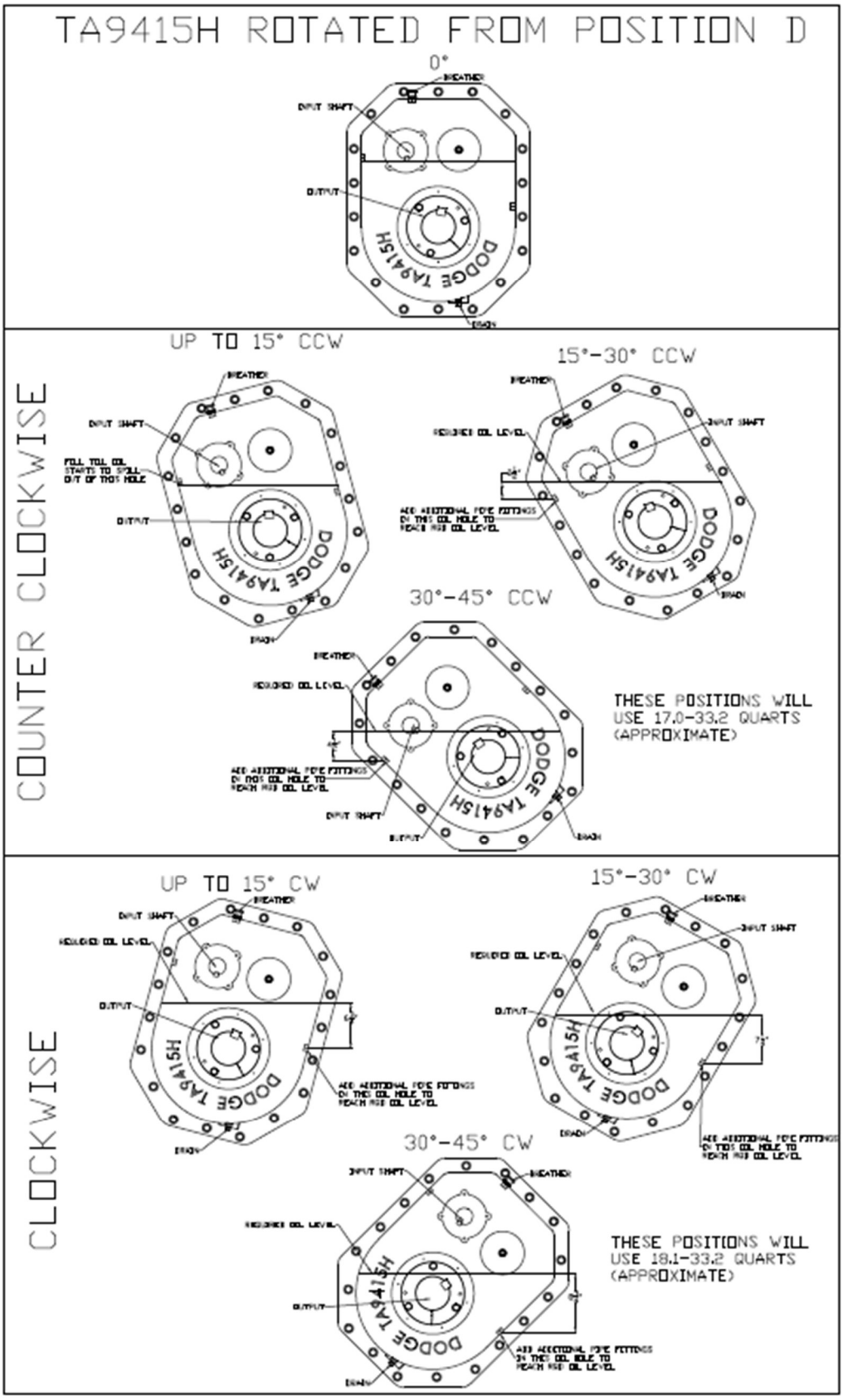

TA8407H ROTATED FROM POSITION C
0°
UP TO 5° CCW
5°-15° CCW
COUNTER CLOCKWISE
THESE POSITIONS WILL USE 13.7-25.1 QUARTS (APPROXIMATE)
15°-30° CCW
30°-45° CCW
UP TO 15° CW
15°-35° CW
CLOCKWISE
35°-45° CW
THESE POSITIONS WILL USE 11.7-15.0 QUARTS (APPROXIMATE)

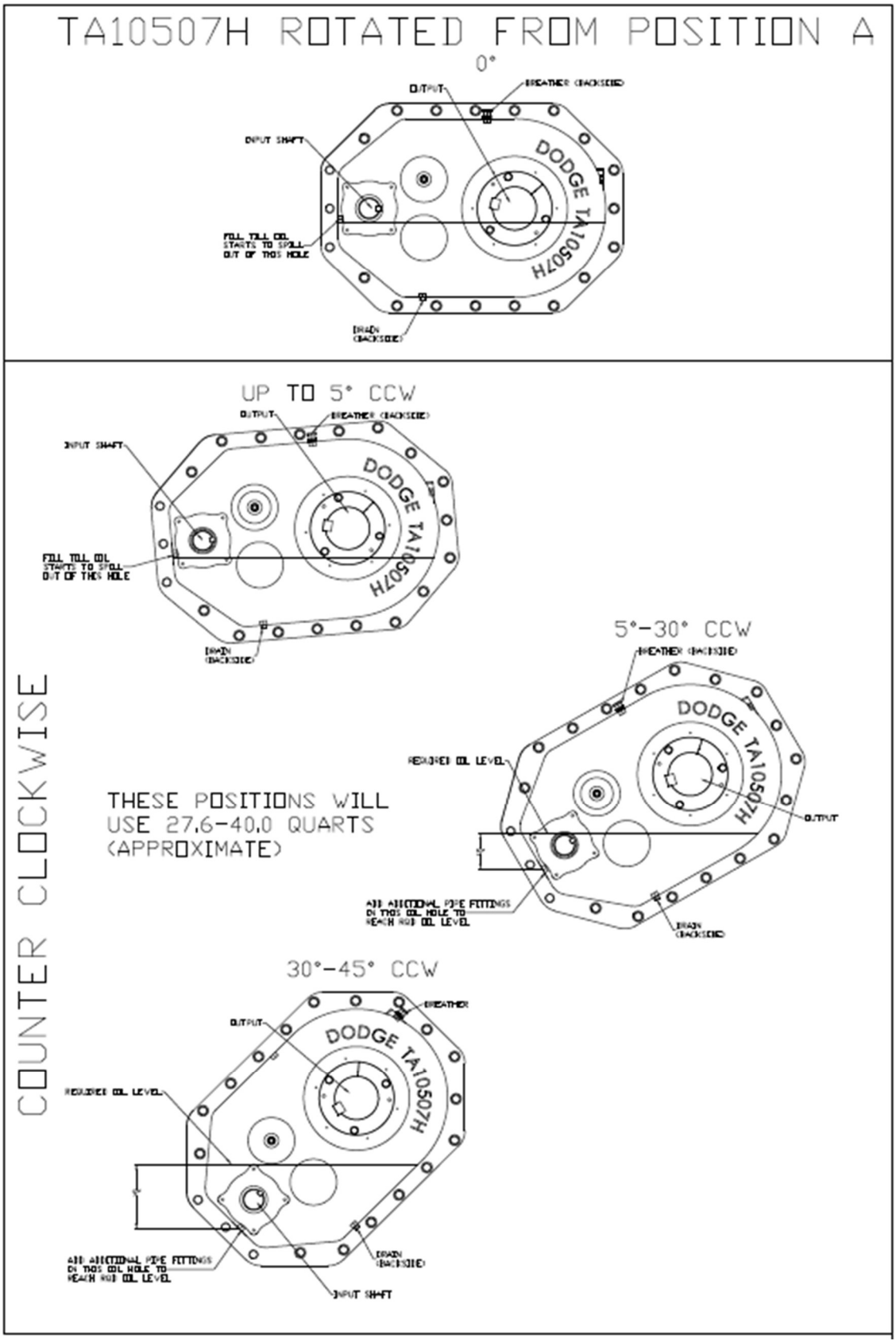

TA8407H ROTATED FROM POSITION D
0°
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE
OUTPUT
DODGE TA8407H
DRAIN
COUNTER CLOCKWISE
UP TO 15° CCW
BREATHER
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE
OUTPUT
DODGE TA8407H
DRAIN
15°-30° CCW
BREATHER
REQUIRED OIL LEVEL
INPUT SHAFT
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL
DODGE TA8407H
DRAIN
30°-45° CCW
BREATHER
REQUIRED OIL LEVEL
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL
INPUT SHAFT
OUTPUT
DODGE TA8407H
DRAIN
THESE POSITIONS WILL USE 7.7-25.1 QUARTS (APPROXIMATE)
CLOCKWISE
UP TO 15° CW
INPUT SHAFT
BREATHER
REQUIRED OIL LEVEL
OUTPUT
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL
DODGE TA8407H
DRAIN
15°-30° CW
BREATHER
INPUT SHAFT
REQUIRED OIL LEVEL
OUTPUT
DODGE TA8407H
DRAIN
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL
30°-45° CW
INPUT SHAFT
BREATHER
REQUIRED OIL LEVEL
OUTPUT
DODGE TA8407H
DRAIN
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL
THESE POSITIONS WILL USE 13.7-25.1 QUARTS (APPROXIMATE)

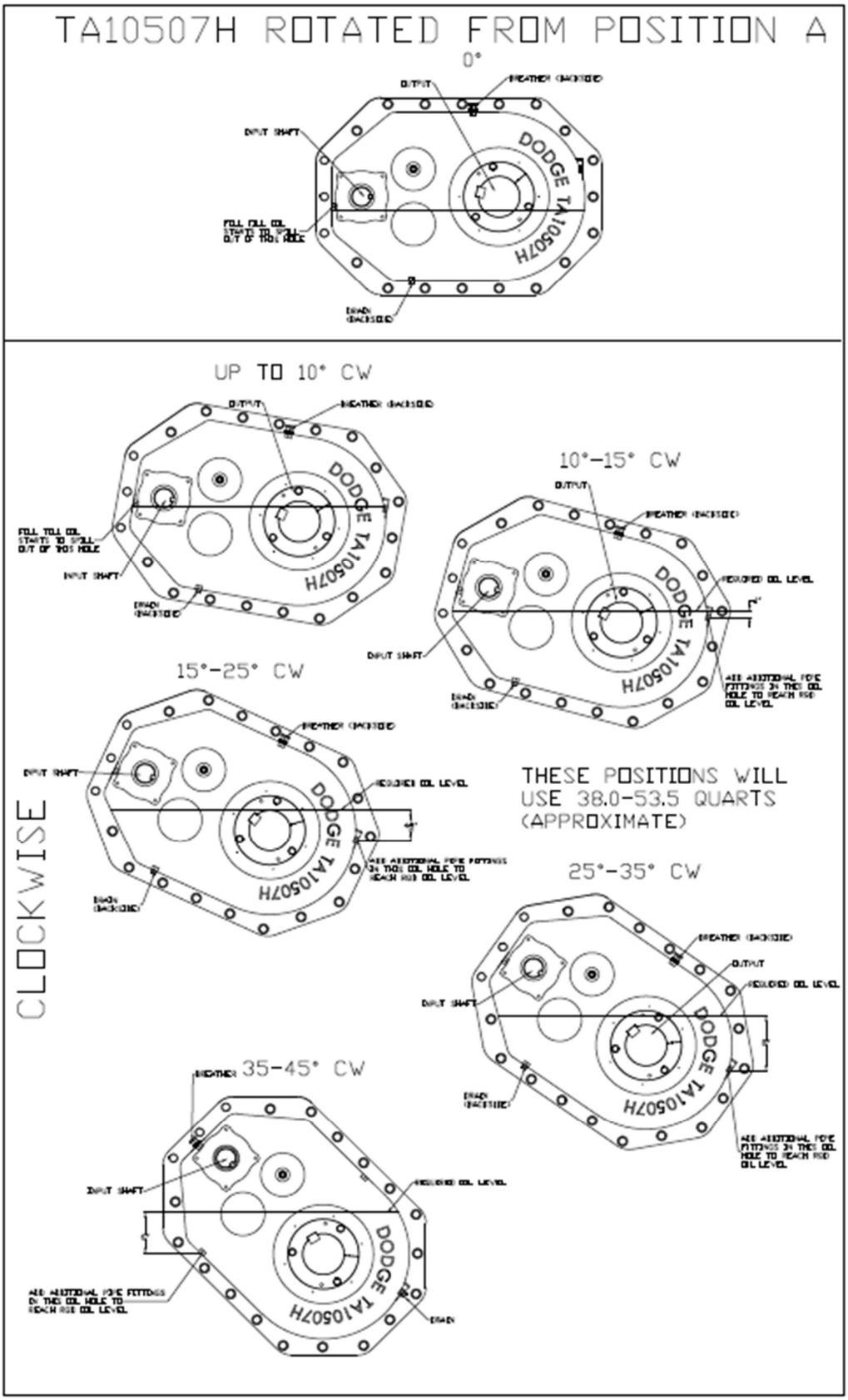

TA9415H ROTATED FROM POSITION A
0°
OUTPUT
BREATHER (BACKSIDE)
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE
DRAIN (BACKSIDE)
DODGE TA9415H
COUNTER CLOCKWISE
UP TO 5° CCW
5°–30° CCW
30°–45° CCW
REQUIRED OIL LEVEL
SEE ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL
THESE POSITIONS WILL USE 16.8–18.5 QUARTS (APPROXIMATE)
CLOCKWISE
UP TO 10° CW
10°–20° CW
20°–35° CW
35–45° CW
THESE POSITIONS WILL USE 17.0–33.2 QUARTS (APPROXIMATE)

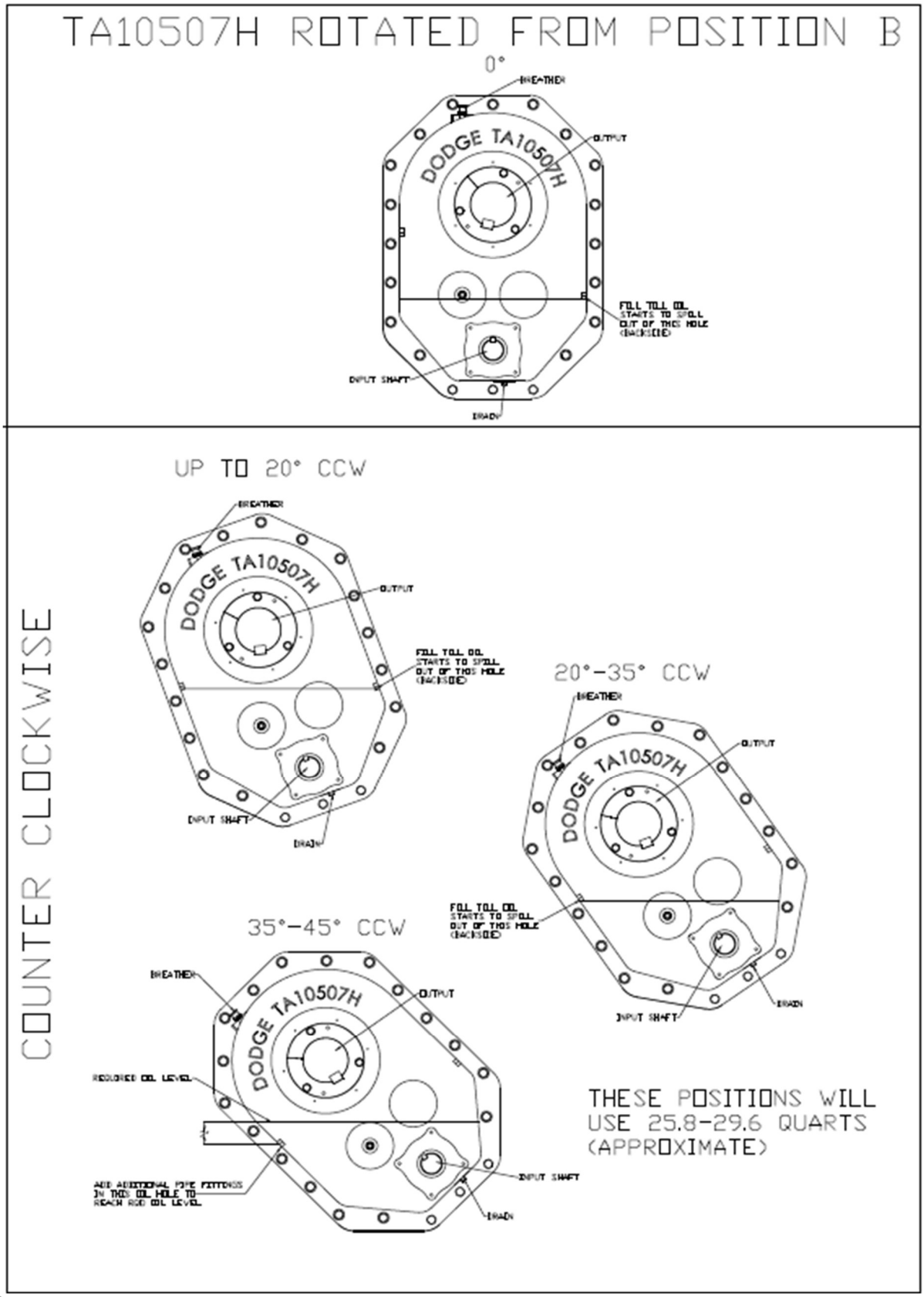

TA9415H ROTATED FROM POSITION B
0°
DODGE TA9415H
BREATHER
O/TPUT
INPUT SHAFT
DRAIN
COUNTER CLOCKWISE
UP TO 20° CCW
20°-30° CCW
25°-45° CCW
THESE POSITIONS WILL USE 16.8-19.6 QUARTS (APPROXIMATE)
CLOCKWISE
UP TO 5° CW
5°-20° CW
20°-45° CW
THESE POSITIONS WILL USE 16.8-18.5 QUARTS (APPROXIMATE)

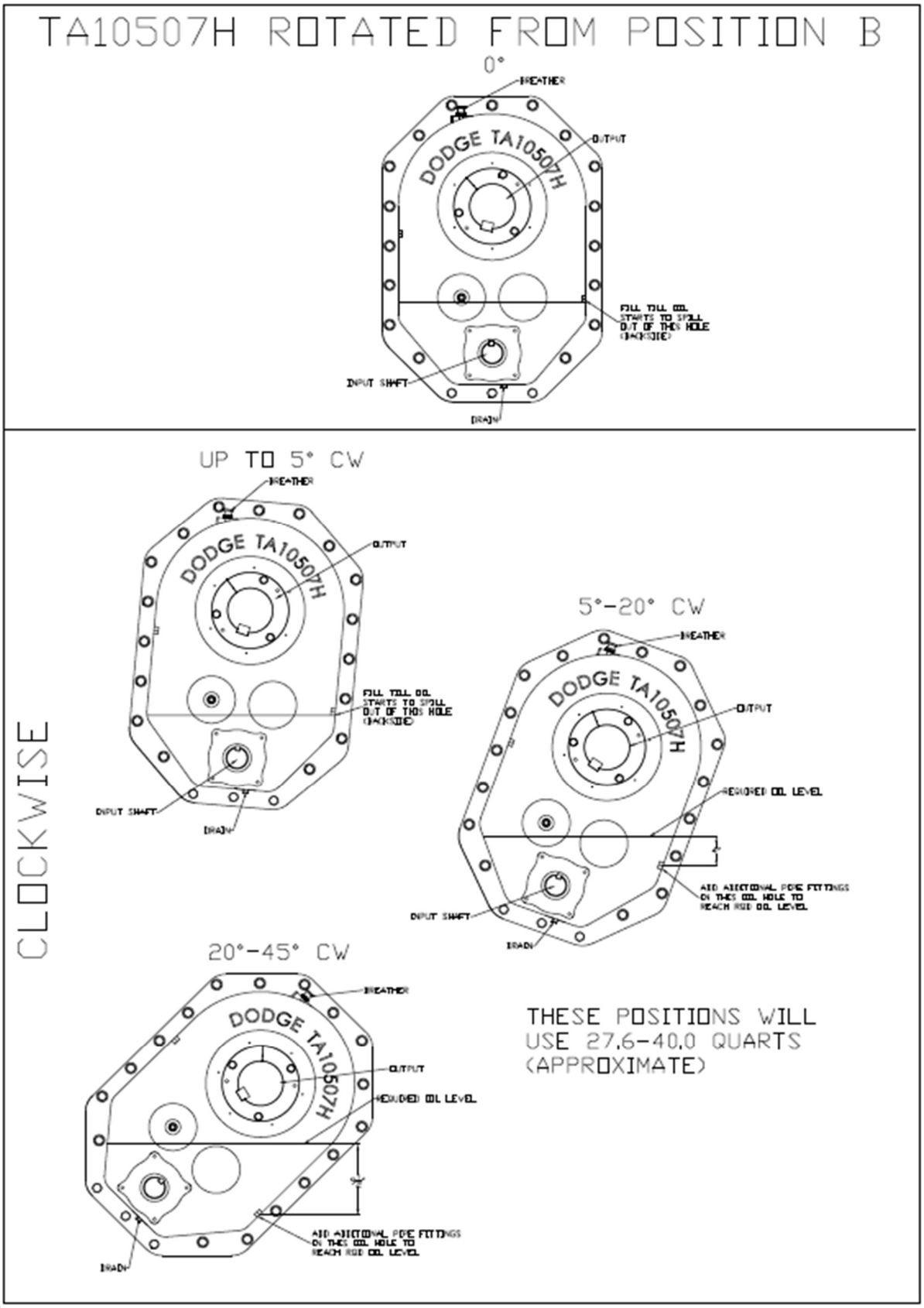

TA9415H ROTATED FROM POSITION C
0°
UP TO 5° CCW
5°–15° CCW
15°–30° CCW
THESE POSITIONS WILL USE 18.1–33.2 QUARTS (APPROXIMATE)
30°–45° CCW
COUNTER CLOCKWISE
UP TO 10° CW
10°–35° CW
35°–45° CW
THESE POSITIONS WILL USE 16.8–19.6 QUARTS (APPROXIMATE)
CLOCKWISE

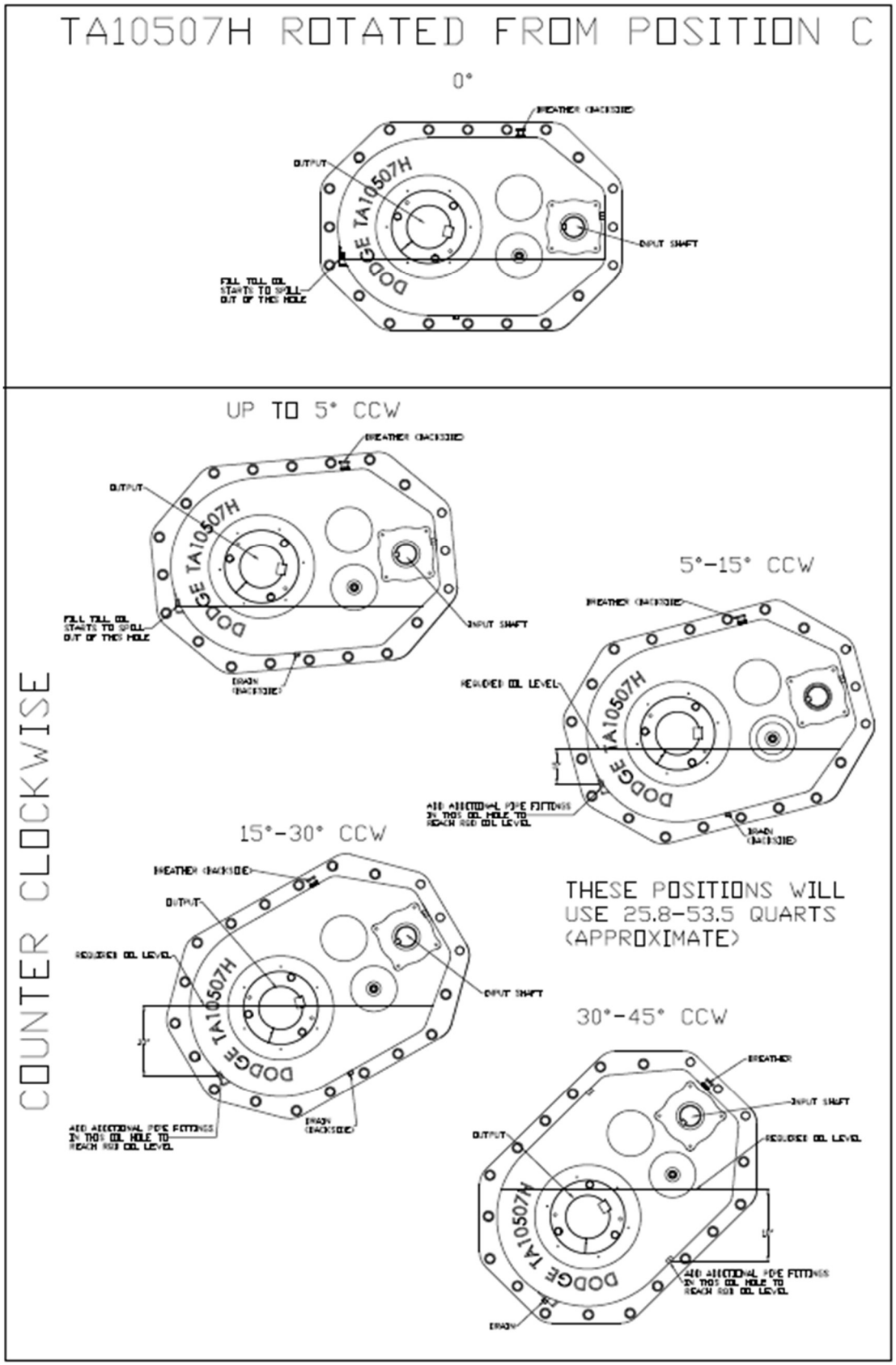

TA9415H ROTATED FROM POSITION D
0°
INPUT SHAFT
OUTPUT
BREATHER
DRAIN
DODGE TA9415H
COUNTER CLOCKWISE
UP TO 15° CCW
FILL TILL OIL STARTS TO SPILL OUT OF THAT HOLE
15°-30° CCW
REQUIRED OIL LEVEL
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL
30°-45° CCW
THESE POSITIONS WILL USE 17.0-33.2 QUARTS (APPROXIMATE)
CLOCKWISE
UP TO 15° CW
15°-30° CW
30°-45° CW
THESE POSITIONS WILL USE 18.1-33.2 QUARTS (APPROXIMATE)

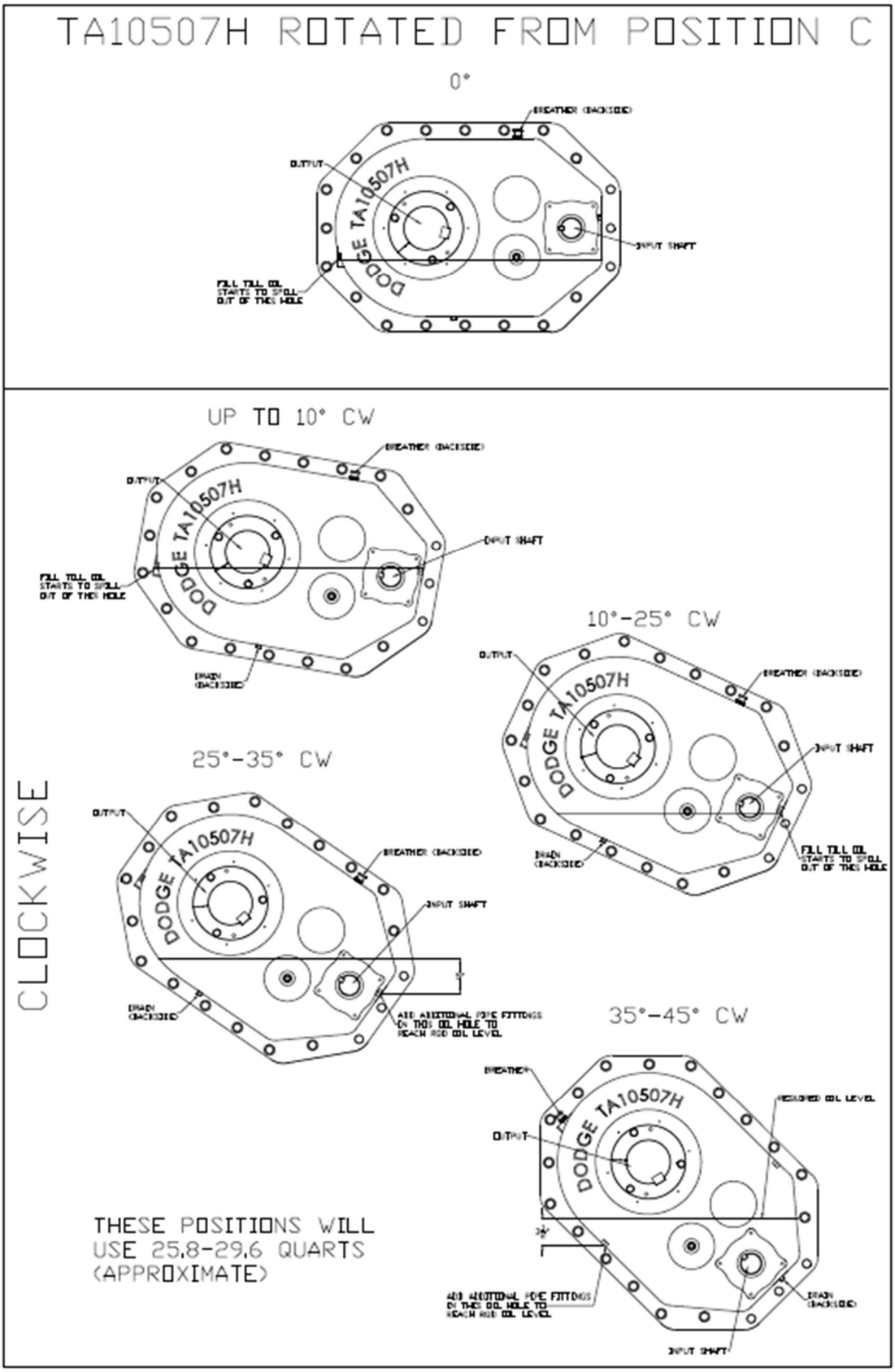

TA10507H ROTATED FROM POSITION A
0°
OUTPUT
BREATHER (BACKSIDE)
INPUT SHAFT
DODGE TA10507H
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE
DRAIN (BACKSIDE)
UP TO 5° CCW
OUTPUT
BREATHER (BACKSIDE)
INPUT SHAFT
DODGE TA10507H
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE
DRAIN (BACKSIDE)
5°-30° CCW
BREATHER (BACKSIDE)
DODGE TA10507H
REQUIRED OIL LEVEL
OUTPUT
ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ'D OIL LEVEL
DRAIN (BACKSIDE)
THESE POSITIONS WILL USE 27.6-40.0 QUARTS (APPROXIMATE)
COUNTER CLOCKWISE
30°-45° CCW
BREATHER
OUTPUT
DODGE TA10507H
REQUIRED OIL LEVEL
ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ'D OIL LEVEL
DRAIN (BACKSIDE)
INPUT SHAFT

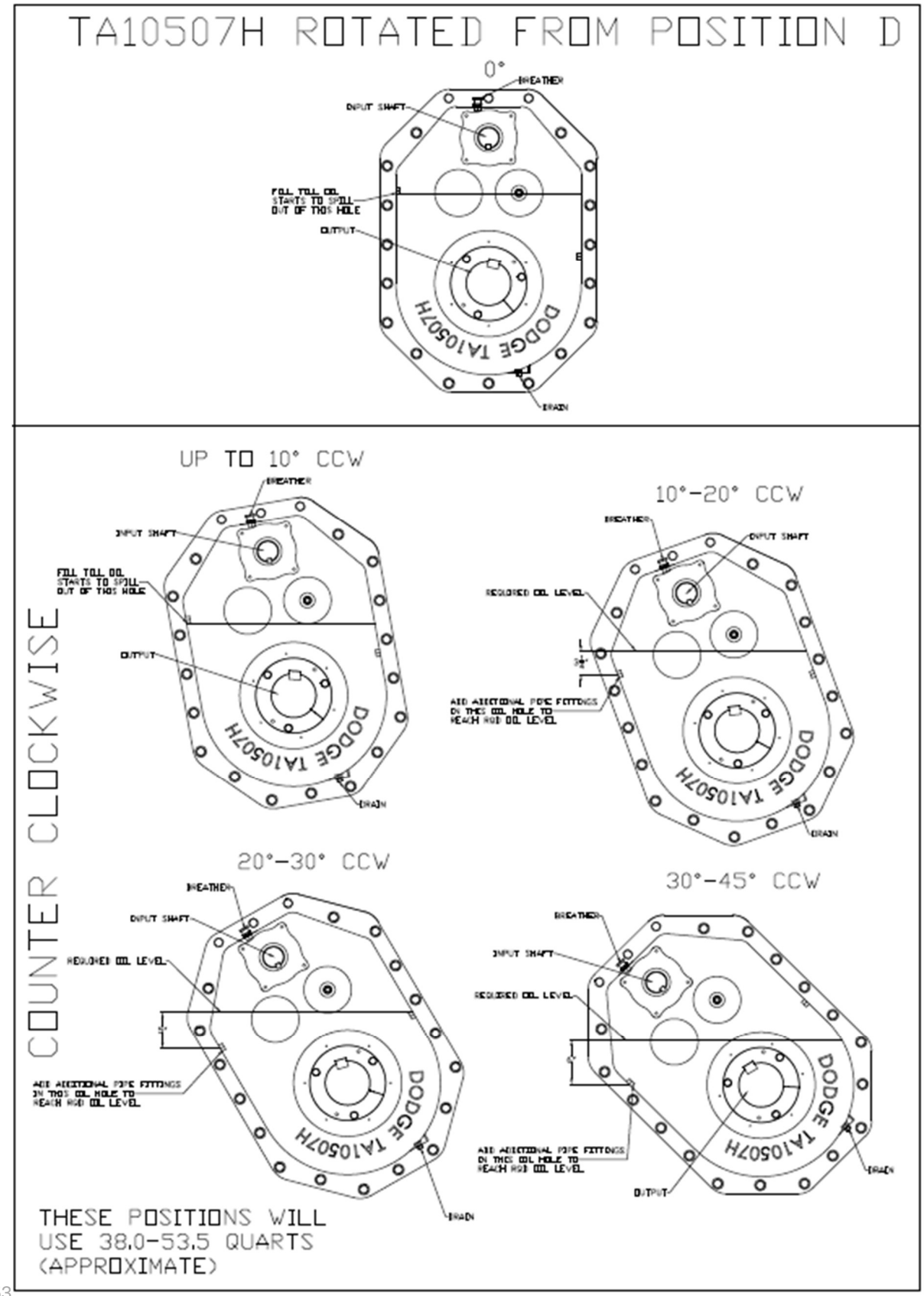

TA10507H ROTATED FROM POSITION A
0°
OUTPUT
BREATHER (BACKSIDE)
INPUT SHAFT
FILL FULL OIL STARTS TO SPILL OUT OF THIS HOLE
DRAIN (BACKSIDE)
DODGE TA10507H
UP TO 10° CW
10°-15° CW
15°-25° CW
25°-35° CW
35-45° CW
CLOCKWISE
THESE POSITIONS WILL USE 38.0-53.5 QUARTS (APPROXIMATE)
REQUIRED OIL LEVEL
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL

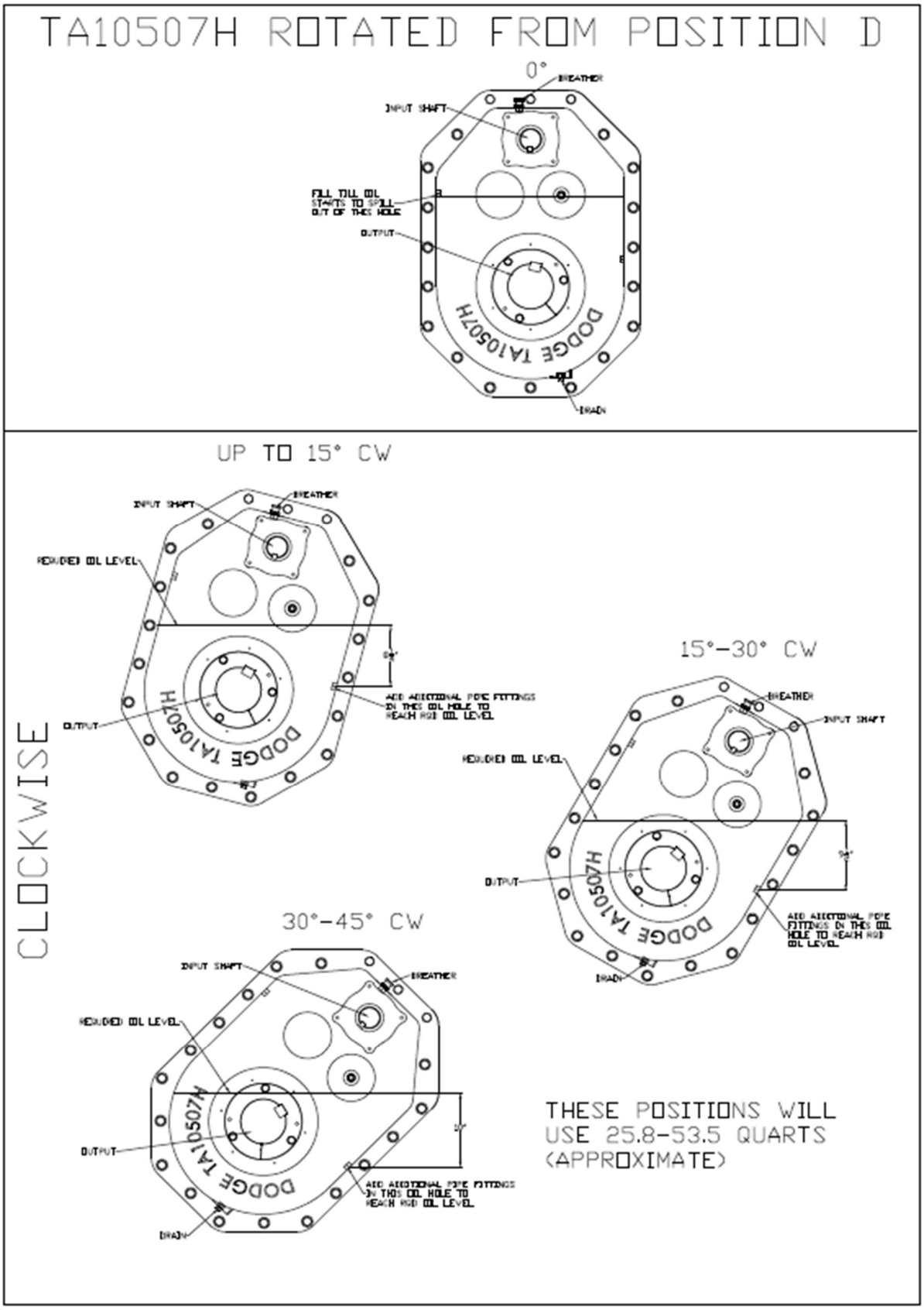

TA10507H ROTATED FROM POSITION B
0°
BREATHER
DODGE TA10507H
O/TPUT
FILL TO L OIL
STARTS TO SPILL
OUT OF THIS HOLE
(BACKSIDE)
INPUT SHAFT
DRAIN
UP TO 20° CCW
BREATHER
DODGE TA10507H
O/TPUT
FILL TO L OIL
STARTS TO SPILL
OUT OF THIS HOLE
(BACKSIDE)
INPUT SHAFT
DRAIN
20°–35° CCW
BREATHER
DODGE TA10507H
O/TPUT
FILL TO L OIL
STARTS TO SPILL
OUT OF THIS HOLE
(BACKSIDE)
INPUT SHAFT
DRAIN
35°–45° CCW
BREATHER
DODGE TA10507H
O/TPUT
REQUIRED OIL LEVEL
ADD ADDITIONAL PIPE FITTINGS
IN THIS OIL HOLE TO
REACH REQ OIL LEVEL
INPUT SHAFT
DRAIN
COUNTER CLOCKWISE
THESE POSITIONS WILL
USE 25.8–29.6 QUARTS
(APPROXIMATE)

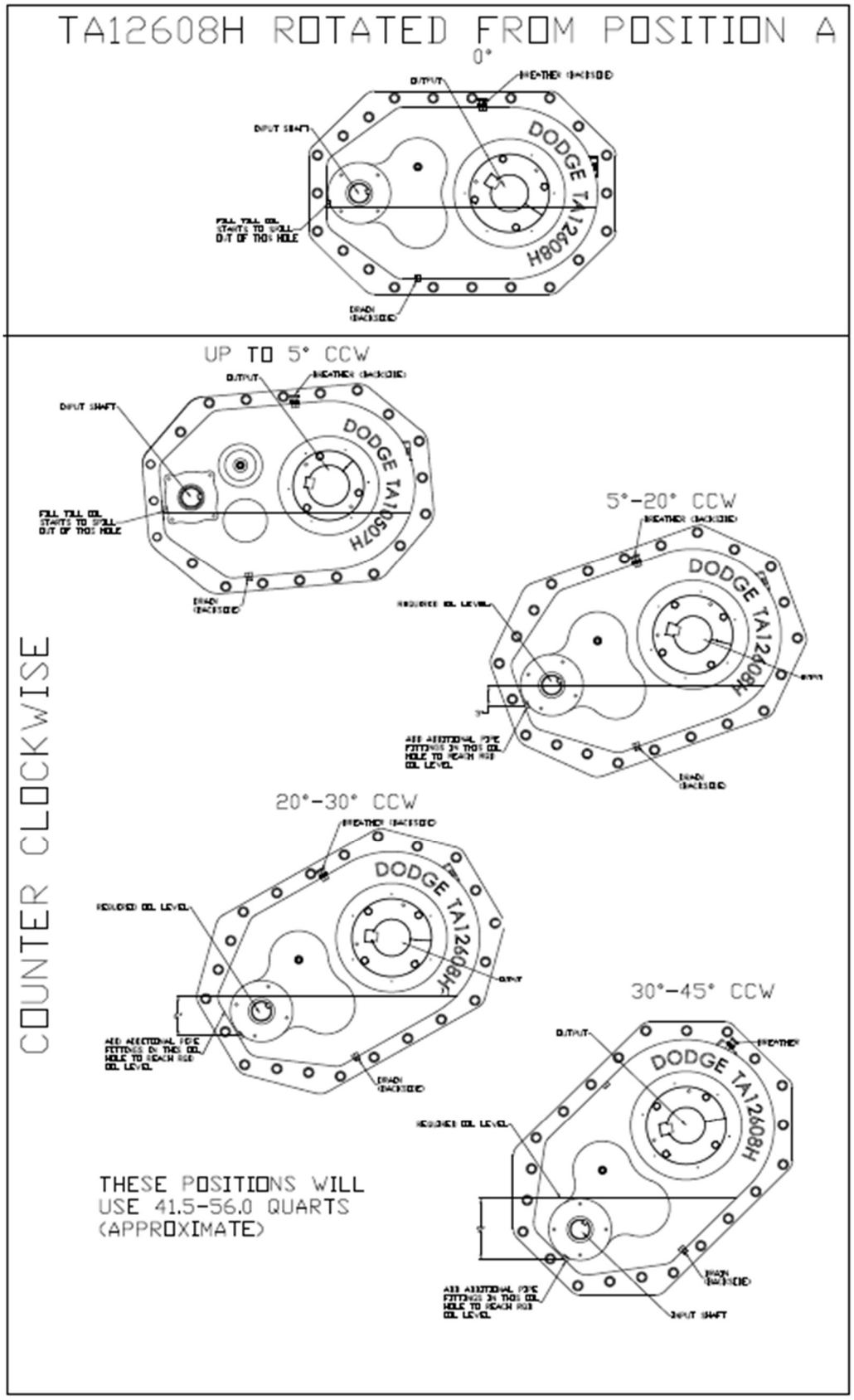

TA10507H ROTATED FROM POSITION B
0°
BREATHER
OUTPUT
DODGE TA10507H
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE (BACKSIDE)
INPUT SHAFT
DRAIN
UP TO 5° CW
5°-20° CW
20°-45° CW
CLOCKWISE
REQUIRED OIL LEVEL
ADD ADDITIONAL PIPE FITTINGS ON THIS OIL HOLE TO REACH RQD OIL LEVEL
THESE POSITIONS WILL USE 27.6-40.0 QUARTS (APPROXIMATE)

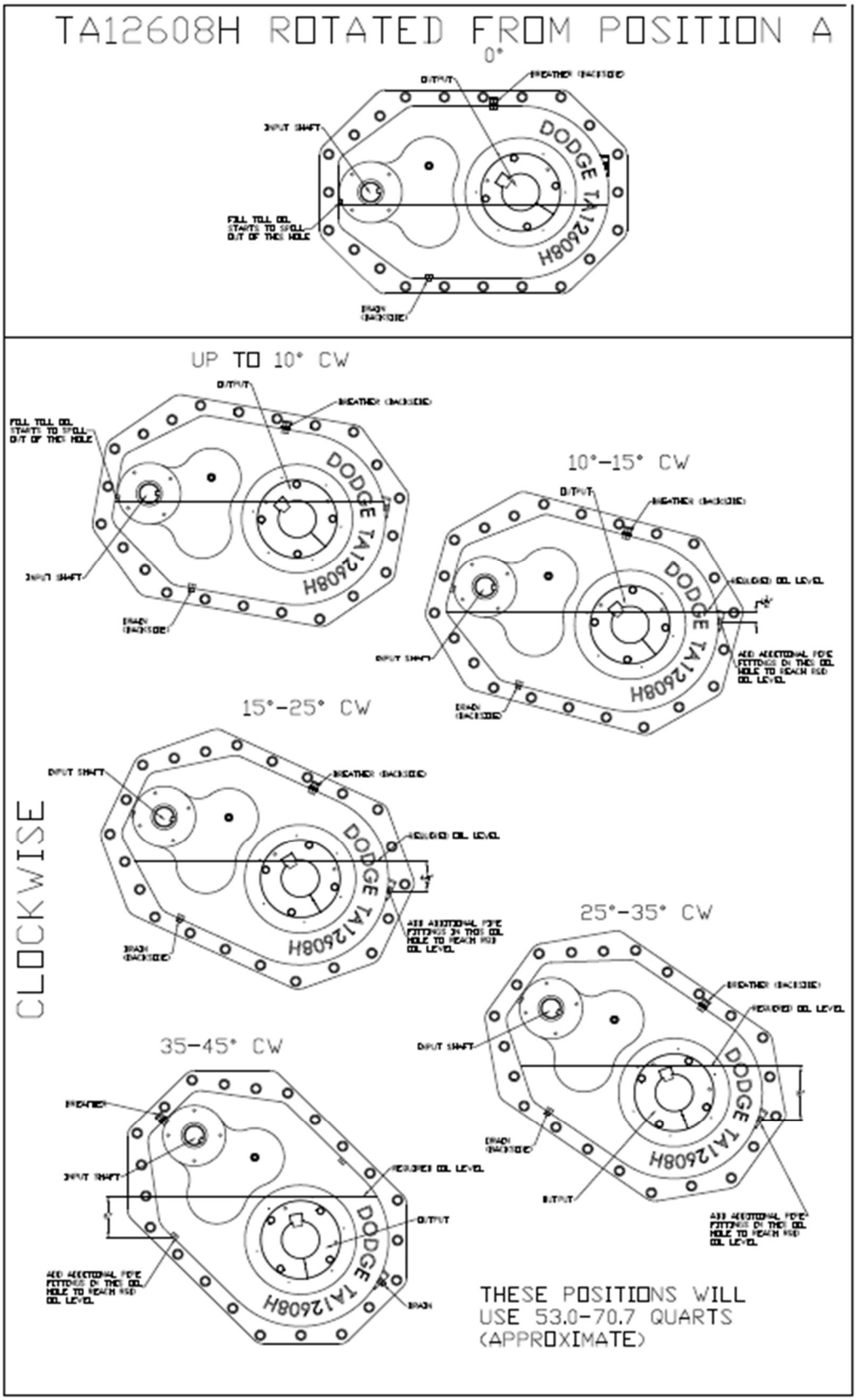

TA10507H ROTATED FROM POSITION C
0°
BREATHER (BACKSIDE)
OUTPUT
DODGE TA10507H
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE
UP TO 5° CCW
BREATHER (BACKSIDE)
OUTPUT
DODGE TA10507H
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE
DRAIN (BACKSIDE)
5°-15° CCW
BREATHER (BACKSIDE)
REQUIRED OIL LEVEL
DODGE TA10507H
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL
DRAIN (BACKSIDE)
COUNTER CLOCKWISE
15°-30° CCW
BREATHER (BACKSIDE)
OUTPUT
REQUIRED OIL LEVEL
DODGE TA10507H
INPUT SHAFT
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL
DRAIN (BACKSIDE)
THESE POSITIONS WILL USE 25.8-53.5 QUARTS (APPROXIMATE)
30°-45° CCW
BREATHER
INPUT SHAFT
OUTPUT
REQUIRED OIL LEVEL
DODGE TA10507H
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL
DRAIN

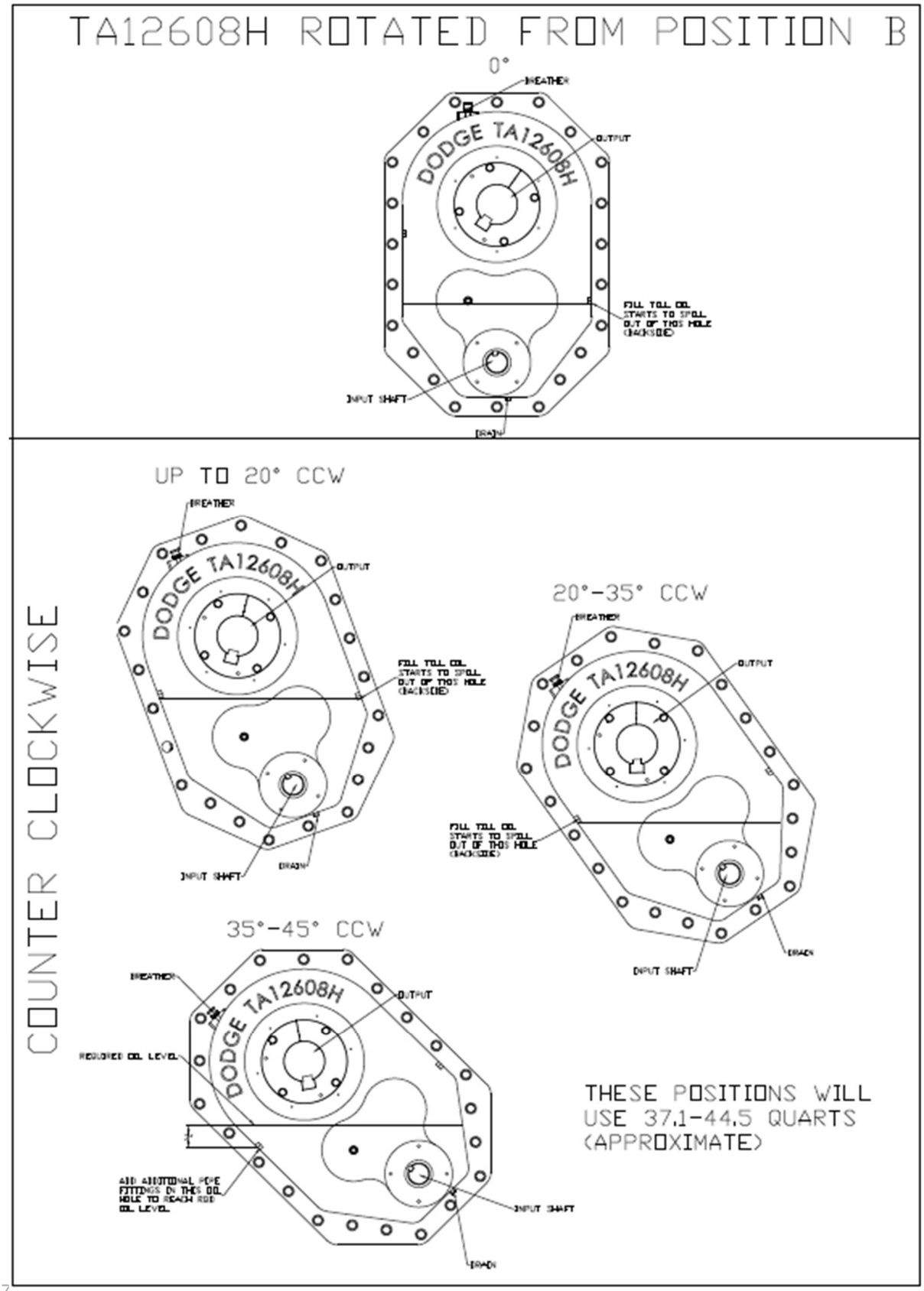

TA10507H ROTATED FROM POSITION C
0°
BREATHER (BACKSIDE)
OUTPUT
DODGE TA10507H
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE
UP TO 10° CW
BREATHER (BACKSIDE)
OUTPUT
DODGE TA10507H
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE
DRAIN (BACKSIDE)
10°-25° CW
OUTPUT
BREATHER (BACKSIDE)
DODGE TA10507H
INPUT SHAFT
DRAIN (BACKSIDE)
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE
25°-35° CW
OUTPUT
BREATHER (BACKSIDE)
DODGE TA10507H
INPUT SHAFT
DRAIN (BACKSIDE)
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH ROD OIL LEVEL
CLOCKWISE
35°-45° CW
BREATHER
REQUIRED OIL LEVEL
OUTPUT
DODGE TA10507H
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH ROD OIL LEVEL
DRAIN (BACKSIDE)
INPUT SHAFT
THESE POSITIONS WILL USE 25,8-29,6 QUARTS (APPROXIMATE)

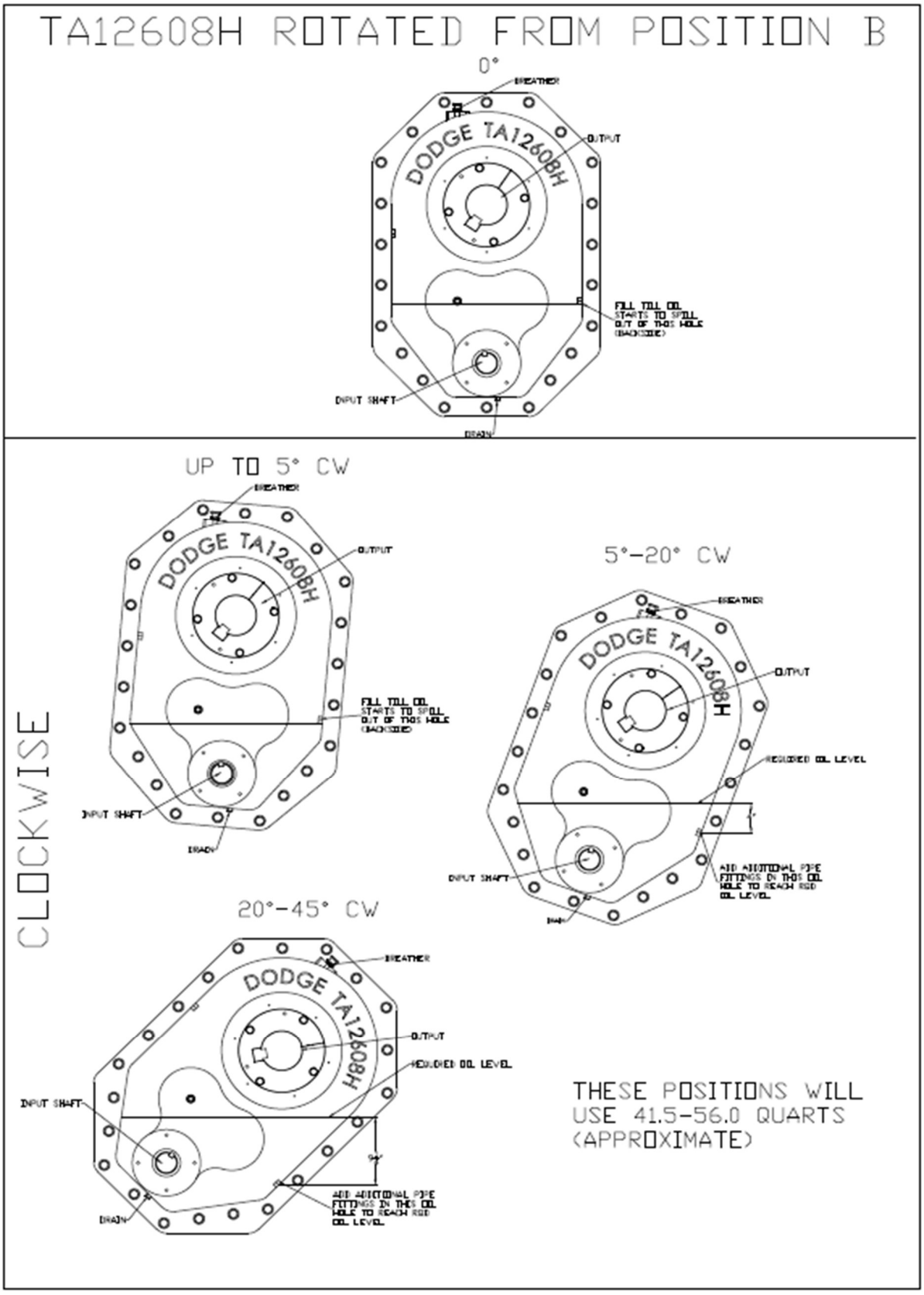

TA10507H ROTATED FROM POSITION D
0°
BREATHER
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE
OUTPUT
DRAIN
DODGE TA10507H
COUNTER CLOCKWISE
UP TO 10° CCW
10°–20° CCW
REQUIRED OIL LEVEL
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH HIGH OIL LEVEL
20°–30° CCW
30°–45° CCW
THESE POSITIONS WILL USE 38.0–53.5 QUARTS (APPROXIMATE)

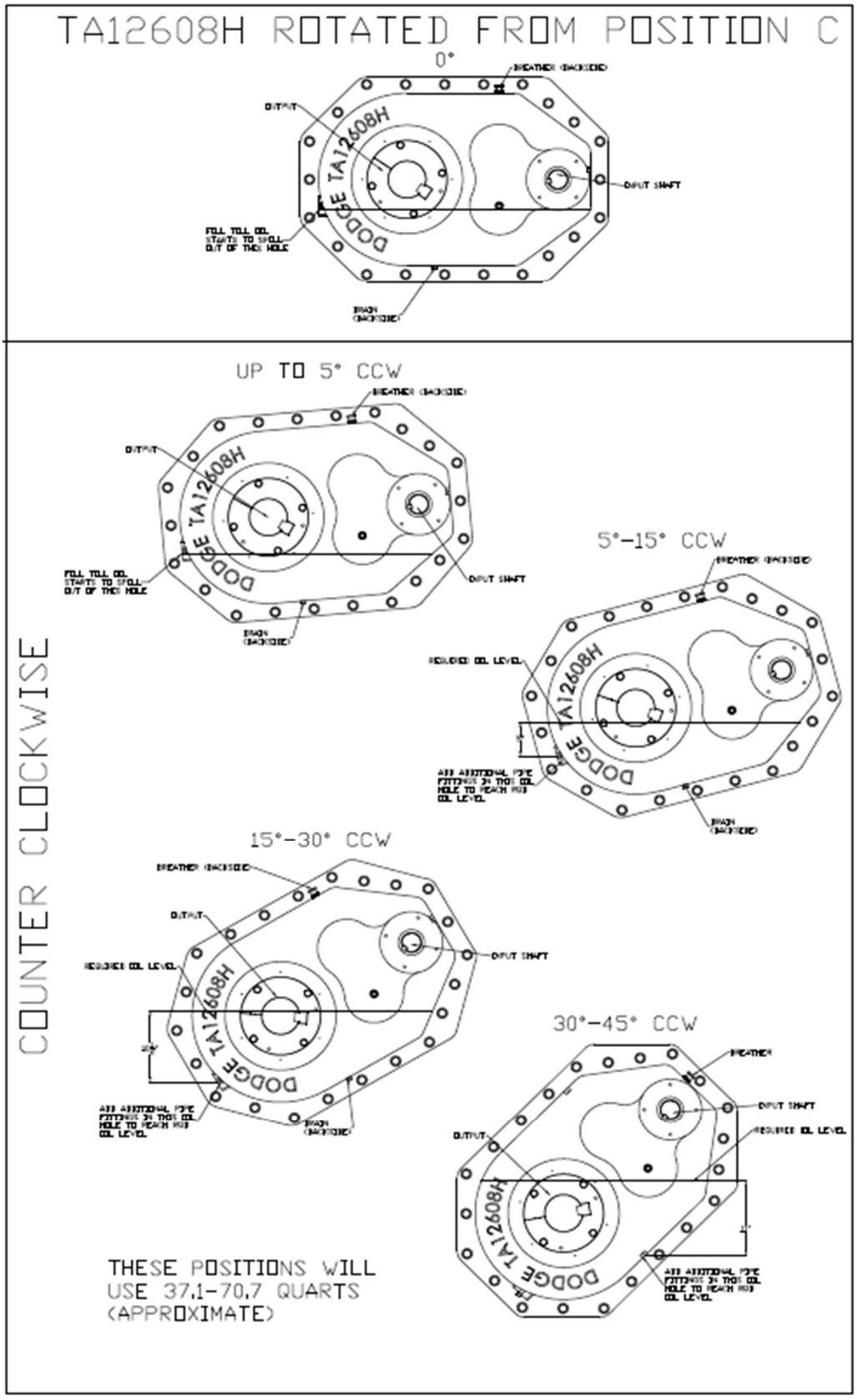

TA10507H ROTATED FROM POSITION D
0°
BREATHER
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE
OUTPUT
DRAIN
UP TO 15° CW
INPUT SHAFT
BREATHER
REQUIRED OIL LEVEL
OUTPUT
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ'D OIL LEVEL
15°–30° CW
BREATHER
INPUT SHAFT
REQUIRED OIL LEVEL
OUTPUT
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ'D OIL LEVEL
DRAIN
30°–45° CW
INPUT SHAFT
BREATHER
REQUIRED OIL LEVEL
OUTPUT
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ'D OIL LEVEL
DRAIN
CLOCKWISE
THESE POSITIONS WILL USE 25.8–53.5 QUARTS (APPROXIMATE)

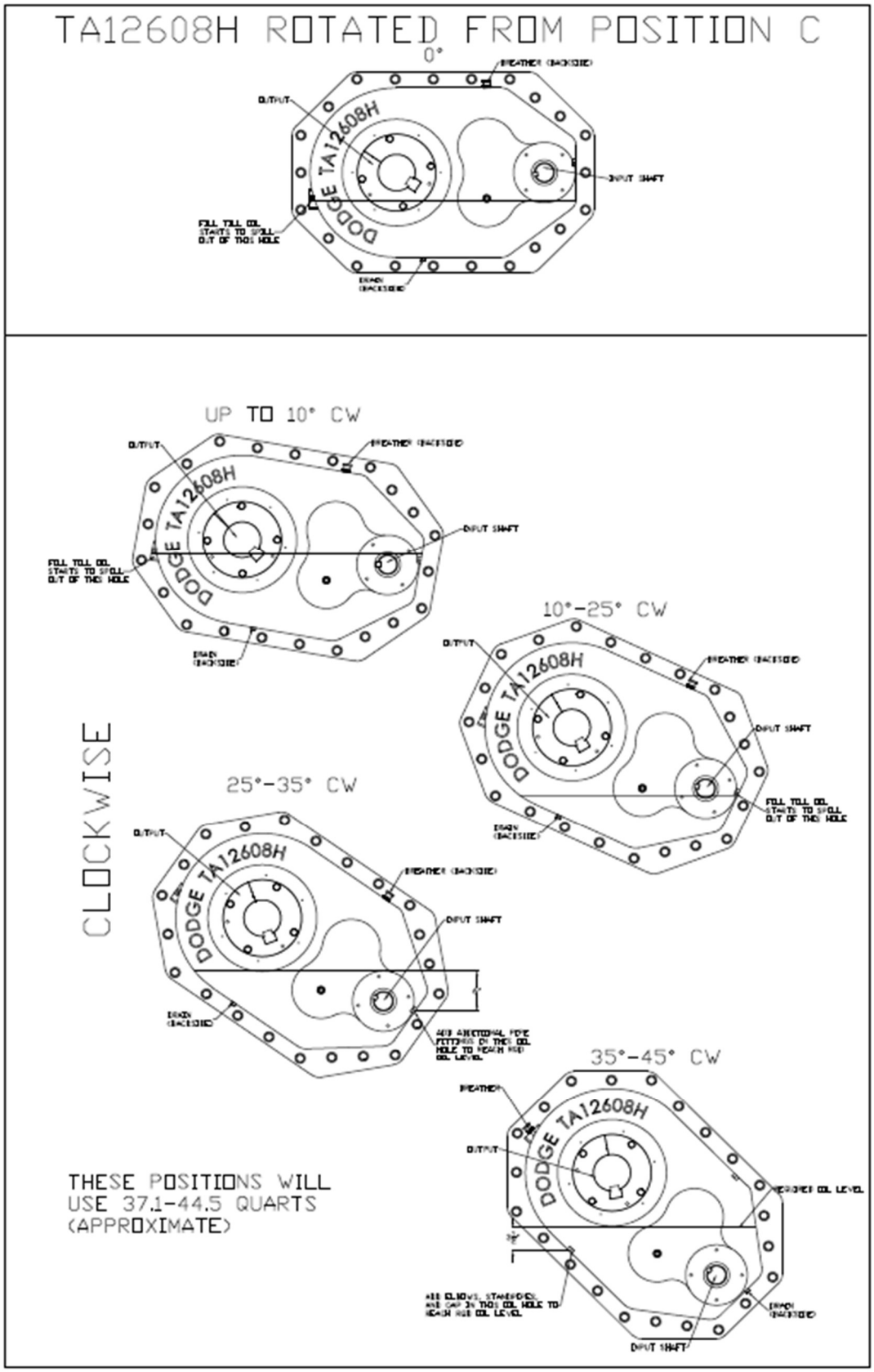

TA12608H ROTATED FROM POSITION A
0°
DODGE TA12608H
UP TO 5° CCW
DODGE TA12608H
5°-20° CCW
DODGE TA12608H
20°-30° CCW
DODGE TA12608H
30°-45° CCW
DODGE TA12608H
COUNTER CLOCKWISE
THESE POSITIONS WILL
USE 41.5-56.0 QUARTS
(APPROXIMATE)

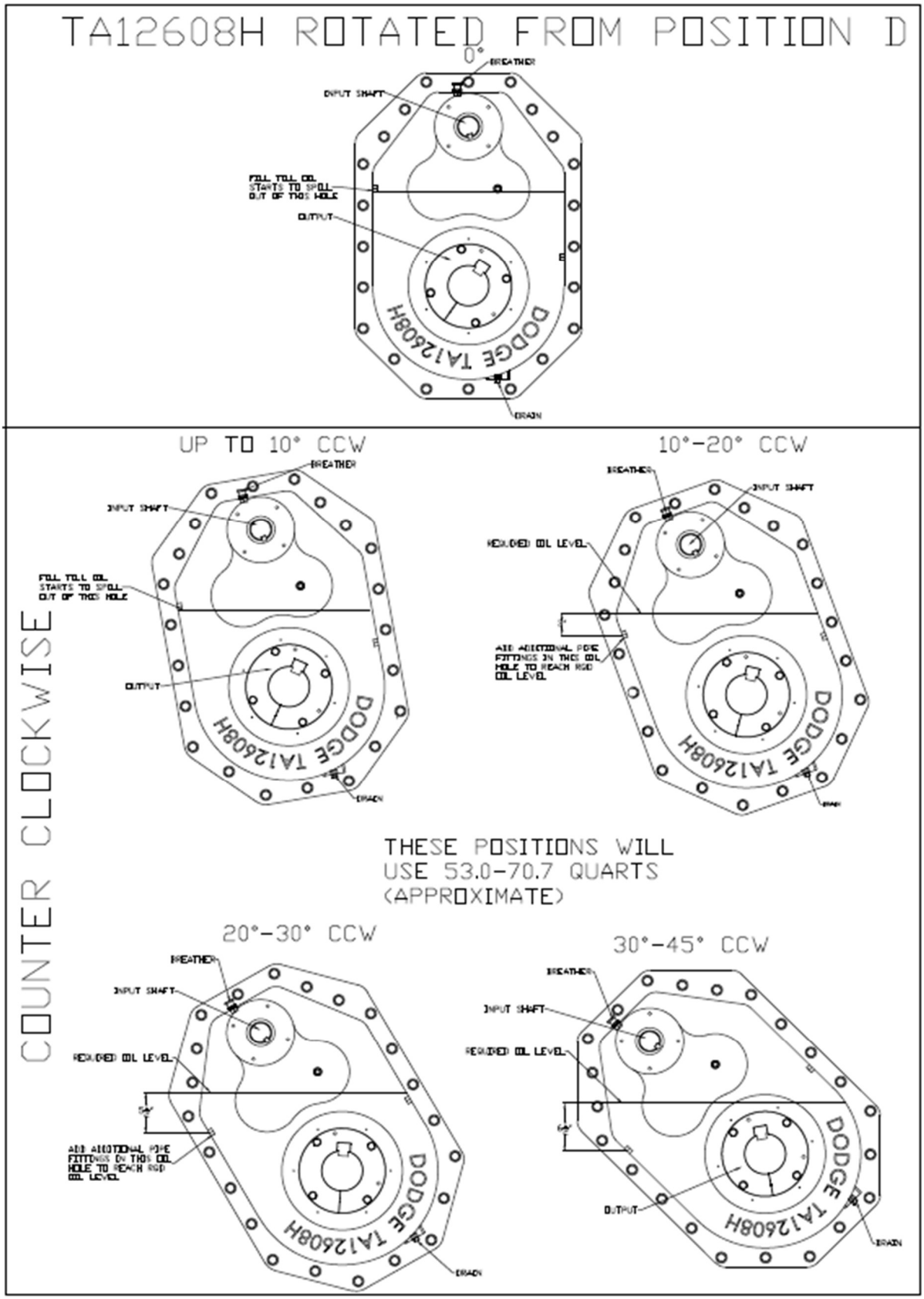

TA12608H ROTATED FROM POSITION A
0°
UP TO 10° CW
10°–15° CW
15°–25° CW
25°–35° CW
35–45° CW
CLOCKWISE
THESE POSITIONS WILL USE 53.0–70.7 QUARTS (APPROXIMATE)

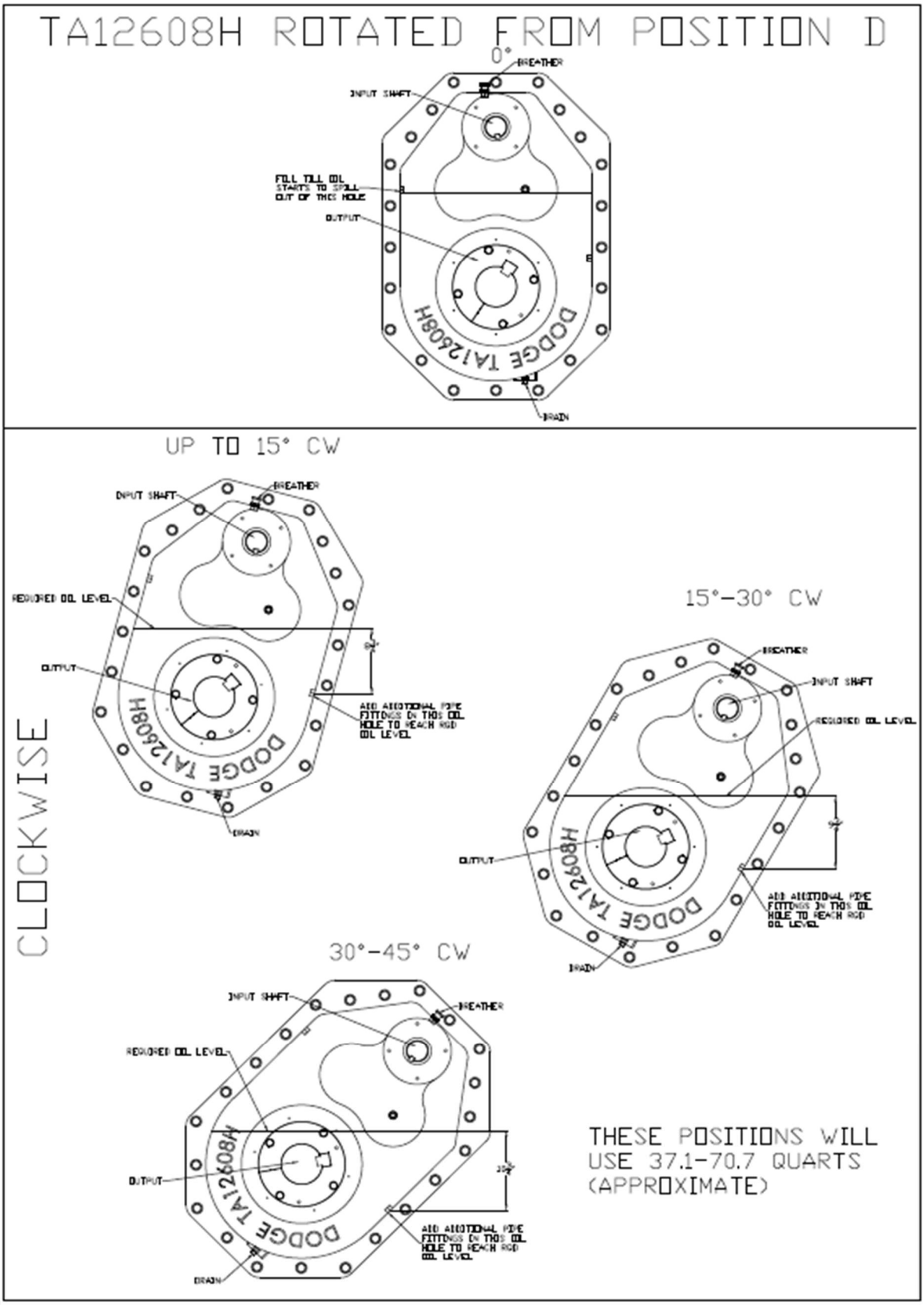

TA12608H ROTATED FROM POSITION B
0°
BREATHER
OUTPUT
DODGE TA12608H
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE (BACKSIDE)
INPUT SHAFT
DRAIN
COUNTER CLOCKWISE
UP TO 20° CCW
20°-35° CCW
35°-45° CCW
REQUIRED OIL LEVEL
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL
THESE POSITIONS WILL USE 37.1-44.5 QUARTS (APPROXIMATE)


TA12608H ROTATED FROM POSITION B
0°
BREATHER
DODGE TA1260BH
OUTPUT
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE (BACKSIDE)
INPUT SHAFT
DRAIN
CLOCKWISE
UP TO 5° CW
BREATHER
DODGE TA1260BH
OUTPUT
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE (BACKSIDE)
INPUT SHAFT
DRAIN
5°–20° CW
BREATHER
DODGE TA1260BH
OUTPUT
REQUIRED OIL LEVEL
INPUT SHAFT
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL
DRAIN
20°–45° CW
BREATHER
DODGE TA1260BH
OUTPUT
REQUIRED OIL LEVEL
INPUT SHAFT
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL
DRAIN
THESE POSITIONS WILL USE 41.5–56.0 QUARTS (APPROXIMATE)


TA12608H ROTATED FROM POSITION C
0°
UP TO 5° CCW
5°–15° CCW
15°–30° CCW
30°–45° CCW
COUNTER CLOCKWISE
THESE POSITIONS WILL USE 37,1–70,7 QUARTS (APPROXIMATE)


TA12608H ROTATED FROM POSITION C
0°
BREATHER (BACKSIDE)
O/TPUT
DODGE TA12608H
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL O/T OF THIS HOLE
DRAIN (BACKSIDE)
UP TO 10° CW
10°-25° CW
25°-35° CW
35°-45° CW
CLOCKWISE
THESE POSITIONS WILL USE 37.1-44.5 QUARTS (APPROXIMATE)


TA12608H ROTATED FROM POSITION D
0°
BREATHER
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE
OUTPUT
DRAIN
DODGE TA12608H
UP TO 10° CCW
10°–20° CCW
REQUIRED OIL LEVEL
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL
COUNTER CLOCKWISE
THESE POSITIONS WILL USE 53.0–70.7 QUARTS (APPROXIMATE)
20°–30° CCW
30°–45° CCW


TA12608H ROTATED FROM POSITION D
0°
BREATHER
INPUT SHAFT
FILL TILL OIL STARTS TO SPILL OUT OF THIS HOLE
OUTPUT
DODGE TA12608H
DRAIN
UP TO 15° CW
INPUT SHAFT
BREATHER
REQUIRED OIL LEVEL
OUTPUT
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL
DODGE TA12608H
DRAIN
CLOCKWISE
15°–30° CW
BREATHER
INPUT SHAFT
REQUIRED OIL LEVEL
OUTPUT
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL
DODGE TA12608H
DRAIN
30°–45° CW
INPUT SHAFT
BREATHER
REQUIRED OIL LEVEL
OUTPUT
ADD ADDITIONAL PIPE FITTINGS IN THIS OIL HOLE TO REACH REQ OIL LEVEL
DODGE TA12608H
DRAIN
THESE POSITIONS WILL USE 37.1–70.7 QUARTS (APPROXIMATE)