

**R1/R2
Camshaft Specifications
(Part # 1557663)**

Copies of the camshaft drawing (1557663) and the lobe profile drawing (1557662) are available for purchase from the Studebaker National Museum. Contact Andy Beckman if you are interested. Here are some particulars of the R1/2 cam;

Timing specifications at .020" lifter rise (considered valve seat to seat timing)

- 260° duration @ .020" lifter rise or at .030" valve clearance (.020 X 1.5 rocker ratio = .030). (shop manual specification)
- .4295 gross valve lift minus the running clearance = .406 valve lift.
- IVO - 17° BTDC
- IVC - 63° ABDC
- EVO -56° BBDC
- EVC - 24° ATDC
- ICA - 113° ATDC
- ECA - 106° BTDC
- LDA - 109.5°
- Valve overlap - 41°
- Based on above timing events, cam is retarded 3.5°

Other pertinent dimensions;

- 53° clearance ramp from above timing points.
- .53125" base circle radius.
- .81762" cam centerline to lobe tip
- .28637" lobe lift
- 1.5 to 1 rocker arm ratio
- 1.34887 base circle to lobe tip

These specifications can also be used to degree a cam during engine assembly.

The industry standard today is to measure cams at .050" lifter rise. Using these criteria, the R1/R2 cam specs out as follows:

Intake and Exhaust duration @ .050" lift is 223.6°

- IVO - -1.4° BTDC (1.4° ATDC)
- IVC - 44.6° ABDC
- EVO - 37.6° BBDC
- EVC - 5.6° ATDC

**Stock 259/289
Camshaft Specifications
(Part # 534131)**

Timing specifications at .020" lifter rise (considered valve seat to seat timing)

- 245° duration @ .020" lifter rise or at .030" valve clearance (.020 X 1.5 rocker ratio = .030). (shop manual specification)
- .359 gross valve lift minus the running clearance = .336 valve lift.
- IVO - 11° BTDC
- IVC - 54.5° ABDC
- EVO -51.5° BBDC
- EVC - 14° ATDC
- ICA - 111.8° ATDC
- ECA - 108.8° BTDC
- LDA - 110.3°
- Valve overlap - 25°
- Based on above timing events, cam is retarded 1.5°

Assuming the ramp acceleration rate is similar for both camshafts, the duration for the stock camshaft at the industry standard .050" lifter rise is 208°.

Camshaft drawing bearing journal size is front to back;

#1 1.8685/1.8690

#2 1.8520/1.8527

#3 1.8370/1.8377

#4 1.8210/1.8217

#5 1.2430/1.2437