

LS Engine Bay Clearance – Top-Down Drawing

Bench reference · Track 01 · LS Engine Swaps

The drawing below represents the bay from above with an LS3 on stock motor mounts. The Three measurements decide fitment before you drop the engine: pan-to-crossmember (line dimensions are the common envelope for a 4th-gen Camaro / Firebird swap into a 2nd-gen A), header-to-frame (line B), and accessory-drive to AC line (line C). If any of them chassis - adjust offsets on the rail grind line if your chassis sits taller. fails with the engine on the ground in front of the bay, you grind before you load.

CLEARANCE ENVELOPE - measurements in inches

A /	pan-to-crossmember drop	4.50	(min 2.75)
B /	header to frame rail	1.25	(min 0.75)
C /	accessory drive to AC line	0.40	(min 0.20)
D /	spark plug to steering shaft	2.10	(min 1.40)
E /	fuel-line feed to chassis return	3.05	(free)
F /	power steer reservoir to brake booster ..	2.80	(min 1.75)
G /	spare-tire well to oil pan	5.20	(min 4.00)
H /	hood latch to intake	4.60	(min 3.60)

MOUNT POSITIONS - driver-side frame stand

stand centerline	22.5" from rail base
engine mount tab spread	18.0"
torque to install	72 ft-lbs

MOUNT POSITIONS - passenger-side frame stand

stand centerline	22.5" from rail base
engine mount tab spread	18.0"
torque to install	72 ft-lbs

NOTE - these spacings match the standard LS swap poly-mount kit. If your chassis is an E-body or G-body, use the body-specific adapter plates; do NOT substitute those offsets with the ones above.

PRE-FIT CHECKLIST - ordered for install day

1. Dry-fit engine on shop floor with the actual mounts.
2. Mark every crossmember that needs a relief grind BEFORE lifting.
3. Check spare-tire well clearance with the actual pan you will run.
4. Lay fuel lines through the body-channel path before locking the engine in.
5. Set the AC compressor bracket BEFORE pulling the engine back out.
6. Verify the steering shaft U-joint with the engine seated - it is the #1 retrofit

See [fuel-system-diagram.pdf](#) and [front-accessory-drive.pdf](#) for downstream checks that surprise.

sit on this same envelope.