

INSTALLATION INSTRUCTIONS

PART DESCRIPTION:			
Nissan Patrol Weld-On Diff Brace Kit (Front)			
PART LISTING			
ITEM#	PART#	QUANTITY	DESCRIPTION
1		1	PATROL FRONT DIFF GUARD (IF ORDERED)
2		1	DIFF BRACE MAIN DIFF BRACE
3		2	TOP KNUCKLE GUSSETS (SHORT)
4		2	BOTTOM KNUCKLE GUSSETS (LONG) (COMPSPEC)
4.2		2	BOTTOM KNUCKLE GUSSETS (HALF MOON) (HIGH CLEARANCE DIFF BRACE)
5		1	DRAIN RING

NOTES: Read and understand these installation instructions before beginning the installation process. Retain these installation instructions for future reference. It is recommended that this item is to be installed by a qualified person.

NOTES:
<ul style="list-style-type: none"> Approximate installation time: 6 Hours. Ensure all parts have been received correctly. Ensure parts are suitable for the vehicle prior to undertaking the insulation. Weld all diff brace parts in sections.

CAUTION
<p>Only a qualified welder that fully understands the fitting of this product should perform this task.</p>

Size	Torque (Nm)	Torque (lbft)
M10	49	36
M12	85	64
M14	135	96
M16	215	157

CAUTION
<p>Welding the diff brace on in one continuous weld can warp/ bend the diff housing. Make sure to spread out welding in sections.</p>

WARNING
<p>Welders can cause serious injury and death if used incorrectly. This should be performed by a qualified person</p>

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1. Start with the vehicle securely on a hoist.
2. Fully remove the diff out of the vehicle as per the vehicle's service manual.
3. Remove all diff internals, brackets & hoses off the diff housing so it is a completely bare diff housing, clean all grease and oil out of the diff so it is a clean housing.
4. Check the diff housing is straight and in good condition.
5. Place the diff brace parts in position as seen in Figure 5 and trace around them with a marker. (Long plate gussets on the bottom of the knuckle and short plate gusset on the top of the knuckle.) (Refer to figure 3) (If fitting a high clearance diff brace there will be a half-moon gusset (ITEM 4.2) to fit on the bottom of the knuckle instead of part 4.)
6. Clean the diff back to bare metal where it has been marked out to weld.
7. The top knuckle gusset will need to be ground down to a point to clear the swivel hub as seen circled in figure 1 (5mm chamfer).
8. If running castor, super flex, Hyperflex or 5 link plates. The bottom knuckle gussets will need to be cut to have clearance for the plates. Dummy fit the plates and gussets to the diff to find out how much needs to be cut off the gusset.

NOTE

If the bottom diff brace gussets have been cut back to fit arm plates. To keep the strength of the diff brace, weld the arm plates that need to be fitted to the diff then weld the diff brace gussets to the plates.

9. Check that the diff brace components are laid out in the correct positions. Place the diff brace components in their allocated position.
NOTE: Make sure the Knuckle gussets are in the centre and square on the underside of the diff. If not, they can fowl of steering components.
10. Tack weld all the diff brace componets in place. Check clearnaces and that all parts are in the correct position.

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11. Once checked fully weld the diff brace parts to the diff housing in sections of no more than 40mm. Spread/ stager the welds evenly around the diff housing to distribute heat evenly. Make sure to feel the diff of the diff ovral temperature starts get hot take a break and let it cool down to avoid the diff bending from heat.
12. Once the diff is fully welded and cooled down clean up all welds and chip any slag off the diff.
13. Then paint or powder coat the diff housing to prevent any rust or corrosion.
14. Regrease bearings or replace if needed then refit all diff components and refit the diff back into the vehicle as per removal. Make sure all bolts have Loctite and are to the correct torque settings.
15. Check the clearance through the full range of motion e.g. Check full compression check sump clearance. Extend bump stops if required.

PHOTOS FOR REFERENCE

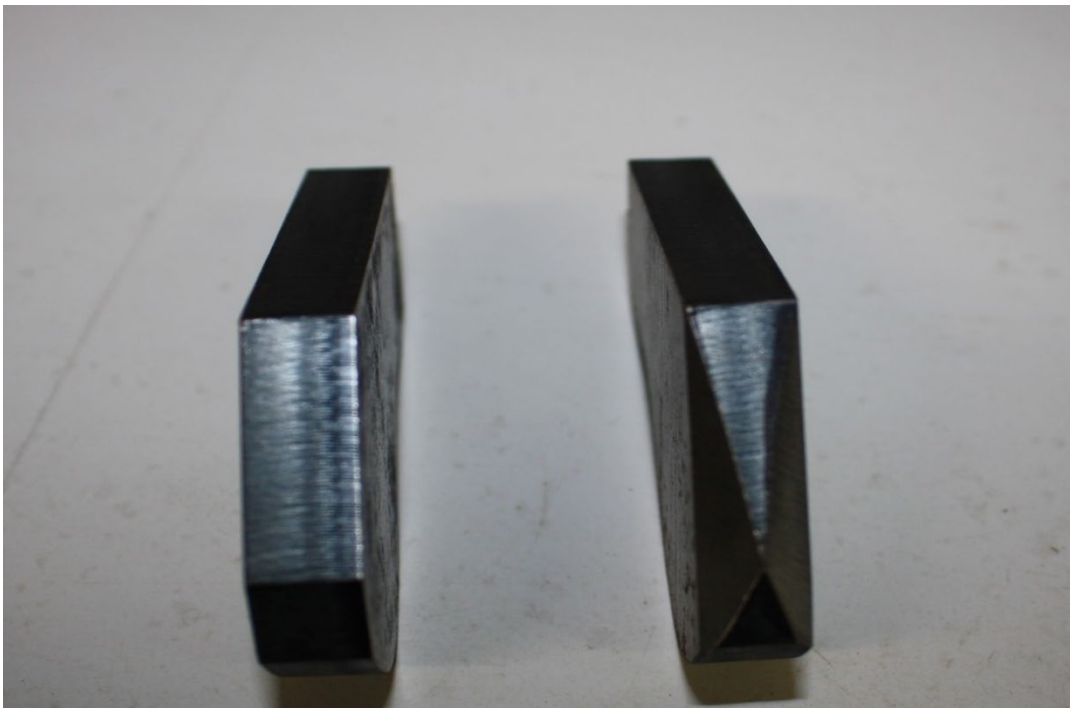


FIGURE 1: TOP KNUCKLE GUSSET CHAMFER

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FIGURE 2: TOP BRACE WELDED ON IN SECTIONS



FIGURE 3: KNUCKLE BRACES FITTED

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FIGURE 4: DIFF DRAIN PLUG RING

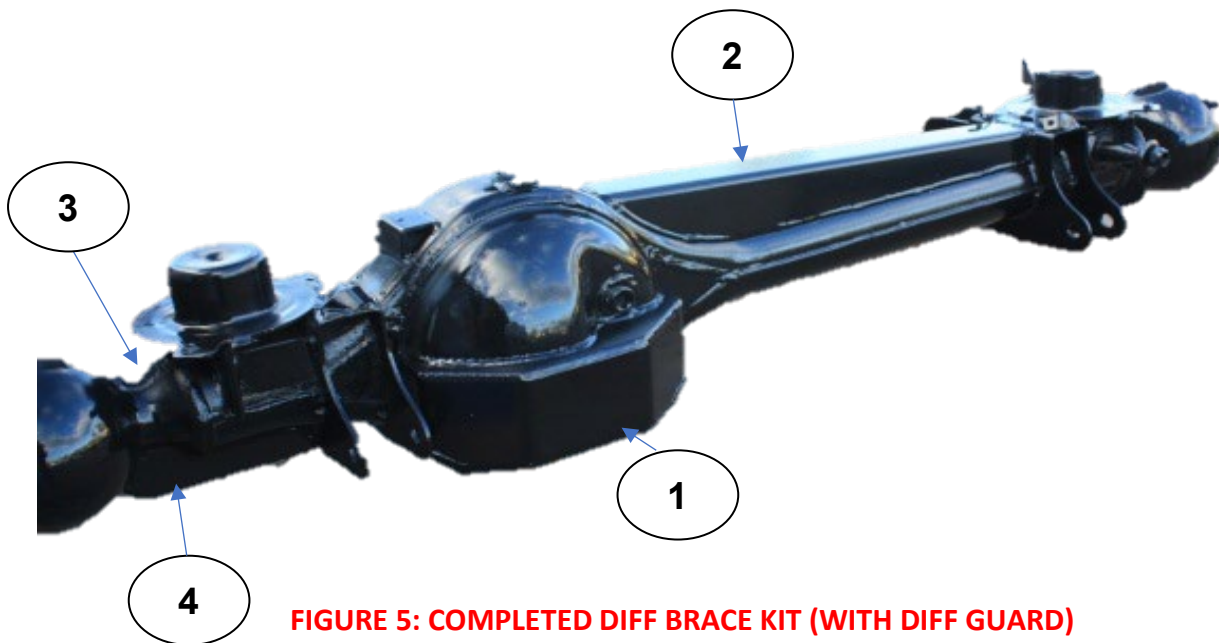


FIGURE 5: COMPLETED DIFF BRACE KIT (WITH DIFF GUARD)