



P RECISION PROVISION

Bolt in a new-old idler arm upgrade for fun and feel.



Precision steering. This has been a key goal of both Chrysler engineers and Mopar drivers since...forever! We get you closer to this goal than ever before.

Story and photos by
Richard Ehrenberg, SAE

When we last shut down our PC, we had just completed installing a cool pitman/sector shaft lower bearing/support deal, which vastly reduces K-member flex on all muscle-era Mopars. Reducing said rubberiness is a giant step toward improving steering precision. And, though we might not have mentioned this, but the same setup bolts perfectly onto manual steering Mopos, too, A, B, and E-bodies inclusive. Cool deal.

Now we turn our attention to the passenger side of the steering linkage—the idler side. Stock Mopars use a beefy drop-forged steel arm (no cast iron back in the day), with one end attached via a pivot shaft to the K-member bracket, and the opposite end supporting the center link as it moves through its range of motion. Problem: The arm is not exactly a precision instrument—and that's being

HANDLE ON HANDLING

No doubt about it: Mopar Action, since issue number 3 (when yours truly joined the staff) has always advocated building well-rounded Mopars, ones that stop and corner as well as they go. With the "typical" small block now displacing 'bout 408 cubes, and the corresponding big-block 'round 528, the "go" part of the equation is almost a no-brainer. Upgrading the stop and turn factors have always been a key goal. "Turn", in M.A.'s dictionary, not only means simple G-force numbers, but steering precision, road feel, and general driver satisfaction. And, where possible, we try to do this on a burger-flipper's budget, too.

Looking back over just a dozen or so issues, we find these articles, all well written (mostly by guess who?)...

Don't have 'em? See www.moparaction.com for ordering procedures.

—R.E.

ISSUE DATE	TOPIC
Dec. 2011	K-member flex fix—bolt-on
April, 2011	Front suspension travel increase
April, 2011	Rear suspension lowering/wheel hop stop
Feb. 2011	Front suspension lowering, urethane, etc.
Oct. 2011	Zero-buck power steering firm-up
Aug. 2010	Dump rubber isolators, F/R
June, 2010	Auto-X tweak/dial-in
Feb. 2010	Suspension pkg. Install/tune
Oct 2009	C-body handling
Dec. 2008; Feb, April 2009	3-part steering series



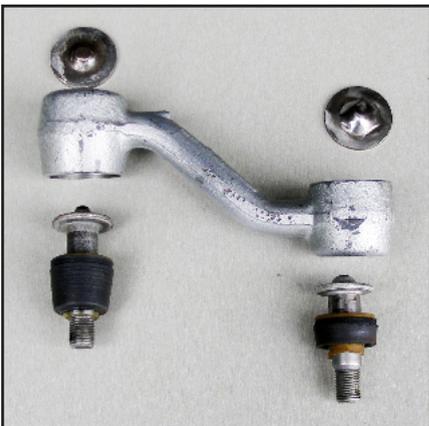
The primary culprit: Stud-type idler arms used on all 'pre-68 A-bodies and pre-'67 B-cars. They can never be rock solid, flex is their middle name. Why? Because they are cantilevered.



And another, even easier to comprehend.



By 1968, Ma Mopar had seen the light, and gone to this double-shear design. Still, the internal rubber bushings lack precision.



Looking inside any stock idler, you quickly see the design's shortcomings.



What's a cantilever? Here's one example.



Even the aftermarket greaseable designs, though improved, are far from perfect, as our test proves.



Back in the day, McQuay-Norris offered this excellent ball-bearing conversion kits, for virtually all Chrysler idlers. Unfortunately, it has been gone for many decades.

kind. While the whole steering setup was certainly light-years ahead of the competitors, and considered sufficient back in the day of 7.50 x 14" bias-plyes and 5" wheels, modern radials on 8 or 9" wheels demand a lot more. As do modern drivers, most of whom were weaned on rack-equipped, fast-ratio (or even variable-ratio) rides.

There were two basic types of Mopar idler arms: What we'll call "type 2" was used on all E-bodies, '68-up A-bodies, and '67-up B-bodies. It used a thru-bolt (double shear) K-member-end mount and was a pretty



Firm Feel (www.firmfeel.com) has come to our rescue, with their Torrington-needle-bearing equipped idler. It is not only greaseable, but adjustable. Even 50 years from now, simply snugging the adjuster nuts will reduce slop to zero.



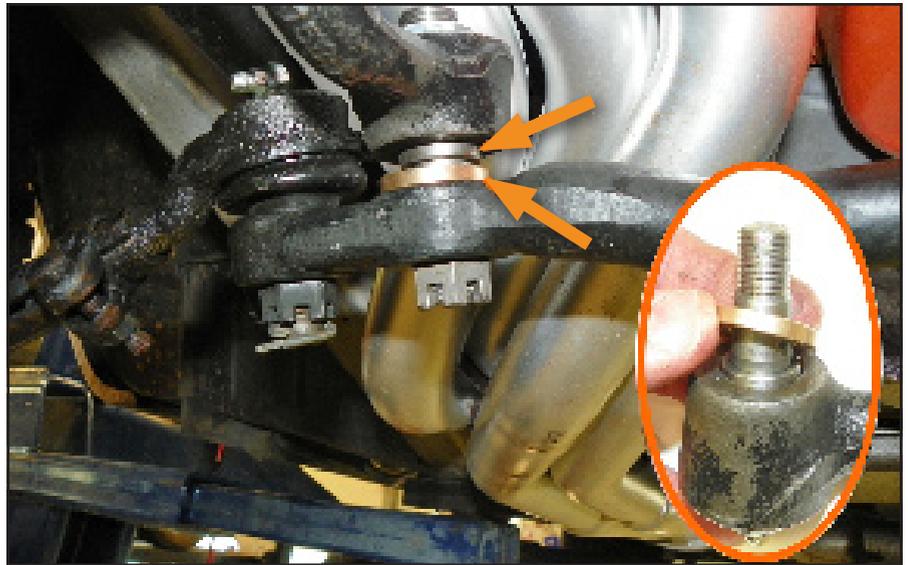
Of course, we had to take it apart. Check that bearing—sweet! FFI may offer this as a kit, as Mc-Q did back in the '60s and '70s.

decent setup. Earlier A- and B-cars, however, used type #1, a stud-type setup which was cantilevered out from a tapered hole in the K, a design that, and we're being generous, was "less than ideal." Both designs, however, used a rubber gusher bushing, which always had some slop. And the rubber design induced lots of friction, meaning that precise, thread-the-needle steering response was off the table.

Ok, let's rewind back to the mid-'60s. CNC machining was still decades away, and, even at the factory level, many machining and forging operations were still at least partially done by hand. In other words,



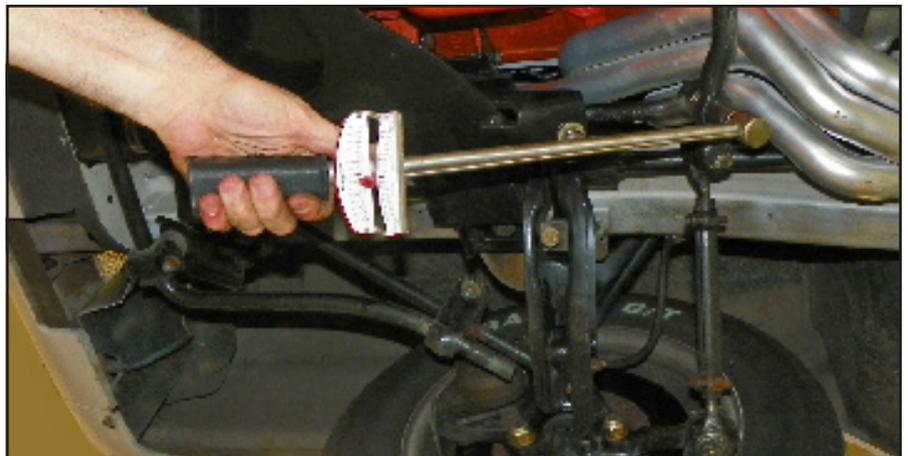
Installation is easy but differs a bit from stock. Remove the old idler; always use a puller on tapered joints.



Be sure the bronze washer seats around the collar (arrows) and doesn't get pinched. A daub of heavy grease works wonders here.



Pickle forks are for brainless Chevy cretins. If you stumble across one, send it to be recycled into at least three Toyota engine blocks.



Making sure the top nut is very loose, torque the tapered stud nuts to 30 ft./lbs., and then keep tightening until a castle-nut slot aligns with the cotter pin hole. Install the pin.

expensive. Buying a replacement for your shot idler arm was, on a GDP/PPP* basis, expensive. Enter an outfit by the name of McQuay-Norris, a company that still exists today as a division of Affinia Corp. They came up with a very clever way to both cut costs (by saving your expensive idler forging) and improving precision while reducing friction. What they offered was a ball-bearing idler arm conversion kit. The procedure was simple: Remove the arm and grind off the peened edges which retain the rubbers and shafts. Drop in McQ's ball-bearing stuff, install, and adjust for zero slop, grease, and go. Eventually, Mc-Q offered these for both the stud and thru-bolt Mopar idler arms. We've been using them for over 40 years, and they are awesome. But (isn't there always a but?) they have been discontinued for at least 30 years; we've been scrounging kits from swap meets, closed parts stores, etc. But, since



The top nut gets torqued last. This is actually the bearing preload adjustment. Dick will develop a torque value for this and supply jam nuts or prevailing-torque locknut. Now just slip the boot on, grease with MML, and adjust toe-in. Done!

and asked him if he could simply copy the old Mc-Q designs. Dick said "sure," but he actually went one better, by replacing the old kit's open bicycle-type ball bearing with modern caged Torrington needles.

While Dick is finalizing designs for both Type 1 and 2 arms as this is written, he sent us a near-production-ready Type 2 kit, which we speedily installed. As you can see in the usual Polaroids accompanying this text, the bolt-in was, well, a bolt-in. What you can't see—like the Geico "If a tree falls, and there's no one around to hear it..." commercial, you'll have to take our word for the steering-precision and response improvements. Which are, in a word, immediate and large. (Okay, busted. That's two words).

These kits (both versions) now join the official MA short lists of "must haves" for any Mopar which sees any real street duty at all, whether it be a daily-driven slant-six Dart, or an autocross '74 Cuda with a 6.4L 3G Hemi.

But, there's more, and you'll find it in our next issue.

*—Gross domestic product, purchasing-power parity. In other words, how many hours a citizen of a particular country has to work for a comparable loaf of bread, liter of gasoline or milk, kWh of electricity, etc. An interesting variation is Economist Magazine's Big Mac Index.

about 2000, that's become virtually a dead-end too. Picked clean! What to do?

We tossed this red-hot potato to Dick Ross at Firm Feel, Inc. (www.firmfeel.com)