



**ARRO** Distributed by Shield Agricultural Equipment  
ARRO® Alternate Rotary Rowcrop Option

# CaseIH

## 3200- & 3400-Series ARRO INSTALLATION GUIDE

For CaseIH and New Holland 2200- & 2400-Series  
corn heads, see Service Bulletin V20171004



**ARRO® is protected by US Patent # 10,123,480**  
**Kopper Kutter LLC, Cimarron, KS**  
**V20190131**



**ARRO™ Tool Kit & Supplies Needed  
For All Cornhead Conversions  
800-798-1968 [www.shieldag.com](http://www.shieldag.com)**



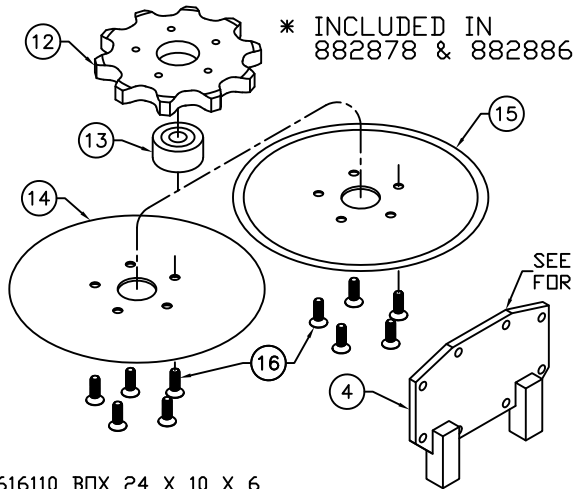
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Kopper Kutter LLC, Cimarron, KS

**SHIELDAG.COM**

PO Box 687 • Hutchinson, KS 67504-0687 • Fax 620-662-7482 **800-798-1968**

LEFT (TOP) DISC: BEVEL UP  
RIGHT (BOTTOM) DISC: BEVEL DOWN

DIRECTION OF TRAVEL



#616110 BOX 24 X 10 X 6

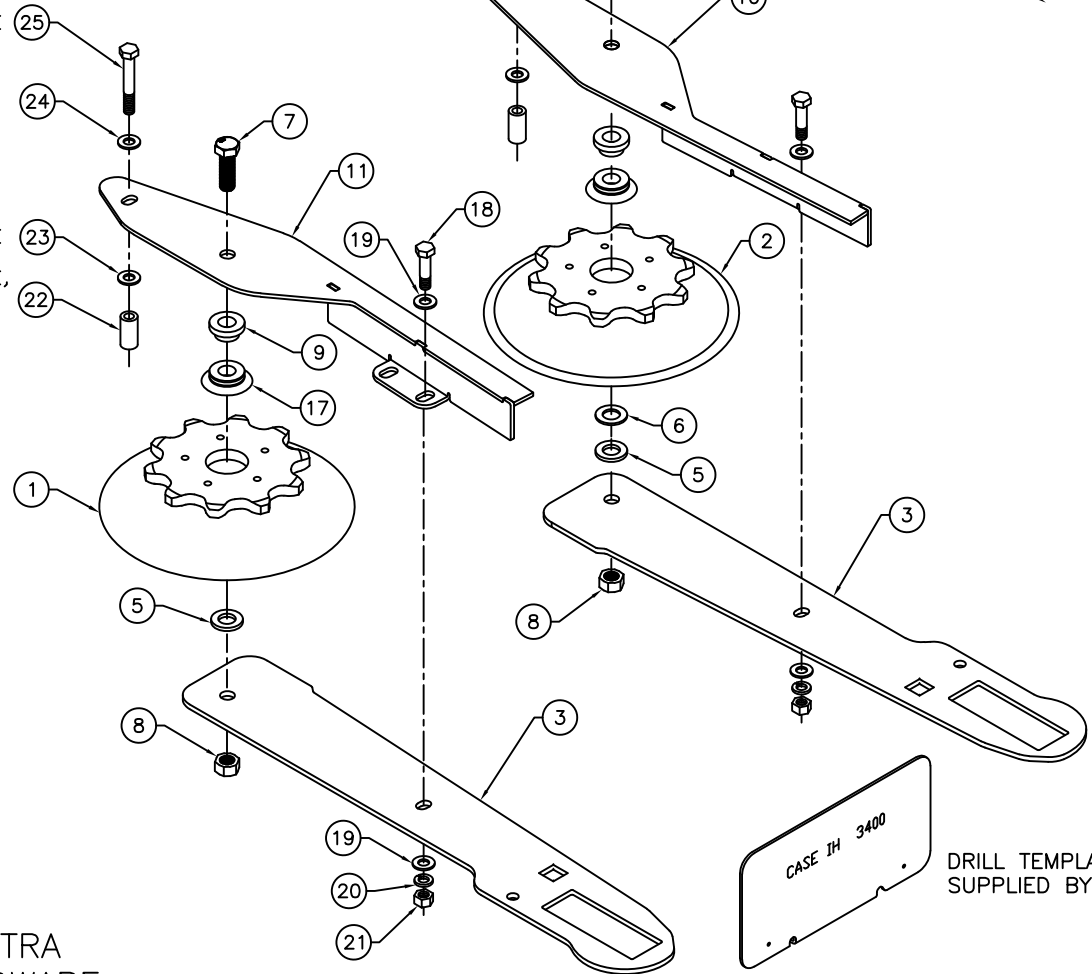
25	2	X	3/8" FLAT WASHER
24	2	X	BOLT, EXISTING
23	2	X	FLAT WASHER, EXISTING
22	2	X	SPACER, WELDED TO DECK
21	2	330134	HEX NUT .500
20	2	330142	LOCK WASHER .500
19	4	330159	FLAT WASHER .500
18	2	01147800	HHCS .500 X 1.5
17	2	400747	DUST SEAL
16	*	339804	SCREW .313 X .750-.138" HEAD
15	*	502732	BLADE 9"x3MM FLAT-TOP CUTTER
14	*	502724	BLADE 9"x3MM FLAT-BOTTOM CUTTER
13	*	403980	BEARING -16MM
12	*	981274	SPROCKET & HUB #555-10T
11	1	980888	CHAIN GUIDE WA RIGHT
10	1	980870	CHAIN GUIDE WA LEFT
9	2	314856	BUSHING 1.25 X .588
8	2	339721	LOCK NUT M16-2 CLASS 8
7	2	339747	HHCS M16-2 X 90 8.8
6	2	339705	MACHINE BUSH .625 x 1.25 x14ga
5	2	339697	MACHINE BUSH .625 x 1.25 x10ga
4	1	KK-882365P	GEAR BOX COVER, 2200-2400 ONLY
3	2	32019200	DECK PLATE REPLACEMENT
2	1	882886	DISKETTE ASSY TOP #555-10T-1'
1	1	882878	DISKETTE ASSY BTM #555-10T-1'
ITEM	QTY	NUMBER	DESCRIPTION

MATERIAL LIST

EXISTING HARDWARE (25)

EXISTING HARDWARE (23)

EXISTING HARDWARE, WELDED TO FRAME (22)



EXTRA  
HARDWARE



SHIM RECOMMENDATION:

- START WITH A LARGE SHIM ON RIGHT (BEVEL DOWN) DISC
- NEXT, USE A LARGE AND A THIN ON LEFT (BEVEL UP) DISC

TEMPLATE MARKS 2ea HOLES FOR DRILLING  
2ea 11/16" HOLES FOR 16mm DISC BOLTS

DRILL TEMPLATE  
SUPPLIED BY DEALER

#32009300

**SHIELD AG EQUIPMENT**

TITLE: ARRO KIT CASE IH 3200 AND 3400		REV: B	
DRAWN BY: J Peintner	DATE: 05-11-16	SCALE: 1/8	DRAWING NUMBER: KK-882365
WEIGHT: 42 LBS.			

ARRO installation tools and procedural recommendation, most tools are common to Deere and CaseIH installations.

Wear safety glasses and steel-toed boots and secure your header at work height using safety blocks to keep header from dropping.

- 2-3 step ladder/platform or sturdy step stool for working around the corn head
- Air compressor and electricity—obviously to have power for tools
- Two Electric or air powered ½” Impact guns (Portable electric is handiest)
- Two 4” wide putty knives for removal of dirt and rust
- Allen wrench set for misc. work as needed, including changing out drill bits in mag-base drill
- 1-1/8” ½” drive impact socket for stalk roll puller, with break-over bar or heavy ratchet
- 2 Dead blow hammers or sledges to knock on stalk rolls to loosen them.
- 2’ long (or longer) air spout to blow dirt off of the gear cases and clean off the row units
- 15mm ½” drive impact socket for gear case bolts and to reinstall ARRO cover plates, keep full set of metric ½” drive sockets handy for other models
- 2’ long ½” drive impact extension to remove the gear case bolts
- Center punch or 3/16” drill for the drill template, 3/8” twist drill for 3/8” holes as needed by model
- 11R Vice Grips to hold the drill template in place
- Small Mag-Base Drill and 11/16” dia, 16mm OR 21/32” dia. hole cutting drill (Hougen-style cutter)—Popular Mag-Base Brand Names: Hougen, Jancy, Milwaukee, Dewalt, CS Unitec, Evolution EvoMag
- 12LC Vice Grip Brand Lobster claw vice grips to help hold the mag drill base on the thin sheet metal decks, if required
- 18mm ½” drive impact socket for removing and re-installing two forward latch/chain guide 12mm bolts
- ½” Female to 3/8” Male impact adapter, for removing grease plugs from gear boxes
- 15/16” impact socket and ½” drive wiggle tail to re-adjust chain tighteners, long bolt is 5/8-11
- 15/16” wrench to re-adjust chain tighteners, nuts are 5/8-11, not metric
- Another 15/16” impact socket and wrench OR 24mm socket and wrench for ARRO disc 16mm bolt/nut, two sets needed because one guy will be installing ARRO Discs while the other guy is tightening the gathering chain adjusters
- 150 lb-ft torque wrench for ARRO discs is recommended
- Regular corn head grease gun grease, or any moly grease gun grease
- Drill lube for the Mag-Base Drill, Petron is recommended, WD-40 or other drill lubes work OK
- Blue Loctite for Arro disc bolts (recommended) and flat head screws holding discs to sprockets
- 2 gallons of corn head gear case lube or polyurea corn head grease (use OE recommended lube), and small funnel to refill lost gear lube in each gear box—there is a dipstick on each filler plug

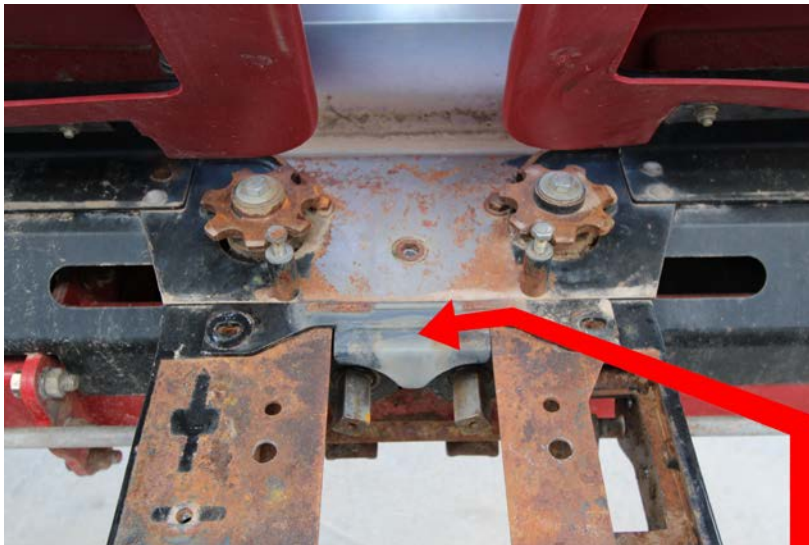
ARRO Kit, note that the dealer will furnish one drill template with a full set of ARRO conversions, please return the drill template to the dealer upon completion of the installation.



Corn head must be pre-cleaned, power washed and blown off to remove all trash, especially from the stalk roll drive gear box area. Corn head must be securely mounted onto a combine with the lift cylinder safety blocks installed, or on a secure combine header trailer with access to all rows. It is beneficial to be able to tilt the header during installation. Most work will be done at a comfortable waist level.

Remove chain guides, gathering chains, tensioners, deck plates, trash knives, wear plate and all hardware from the decks. The drill template slides up into the throat indicated below, to assure proper placement of the sprocket disc assemblies. Mark chain tensioners with paint stick for re-use on the same rows.

At this time, inspect all gathering chains for wear. If the “droop” is more than two to three inches, the link pins have excessive wear (consult your header service manual), order new 8-lug gathering chains as needed.



**Remove wear plate**



**Remove stalk rolls. Number each row with a paint stick for future re-use as a corn head.**



**Clean rust and scale off the top of the header decks to prepare for drill work and installation.**



**Place drill template at the rear of the row unit frame as shown, making sure it fits up against the actual throat of the row unit. Secure with vice grip. Using either a center punch or a 3/16" pilot drill, mark or drill the two hole locations shown with the template.**



Stock wear plate is removed for locating drill template and installation of ARRO kits

**Drill the two holes with a 16mm or 11/16" diameter drill. We highly recommend using a mag-based drill for this pair of precision holes.**



**Layout deck plates as shown and check locations of previously-drilled 11/16" or 16mm holes to make sure they line up with the ARRO deck plates.**

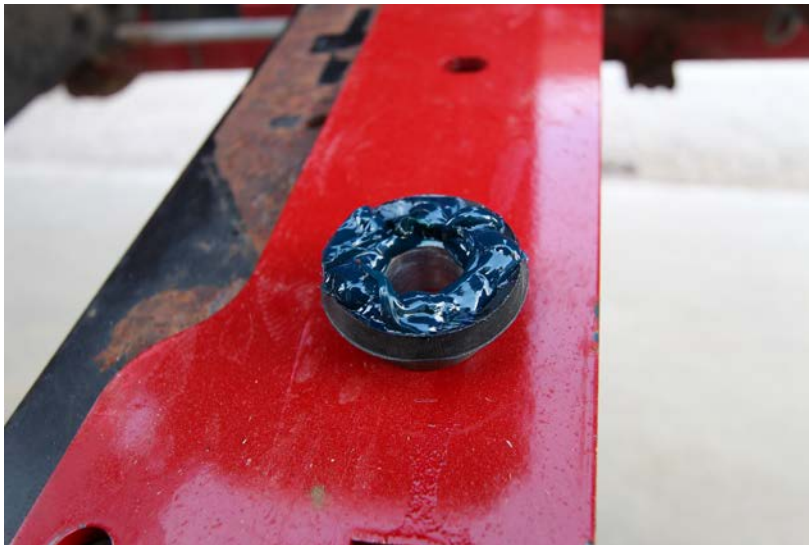


**If there is a slight misalignment between the holes in the deck and the ARRO deck plates, use die-grinder to touch up drilled holes in frame.**





Lay out the two rubber seals and add any type of grease-gun grease or corn head grease to the small recess in the seal between the bushing. NOTE that the parts diagram shows the orientation and placement of the matching pair of sprocket assemblies. AT THIS TIME, please check the flat head screws that fix the discs to the sprockets with the appropriate tool (either Hex-Allen wrench or Torx). Make sure that the screws are tightened to 18-25 ft.-lbs.



Lay out the two ARRO deck plates as shown.



**Loosely install the 16mm bolt through the chain guide, special bushing and rubber disc cap, through the disc assembly and install the shim or shims on the bottom side. See the parts diagram for proper orientation of the discs and shims.**



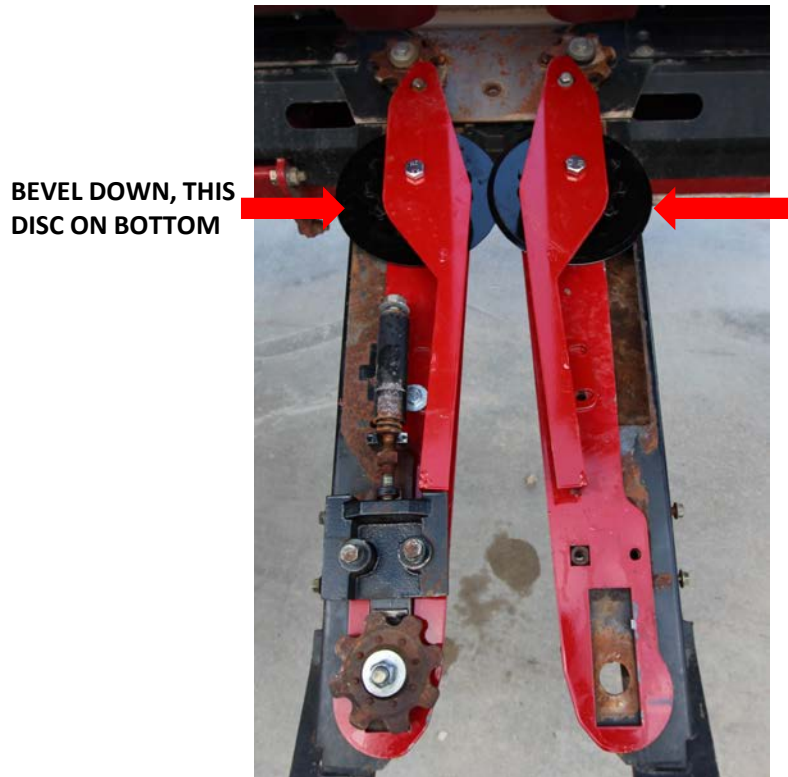
**Reuse existing washer between the chain guide plate and deck spacer welded to the deck and add supplied washer under bolt head.**



REFER TO PARTS DIAGRAM FOR PROPER DISC ORIENTATION AND PLACEMENT, LEFT AND RIGHT.

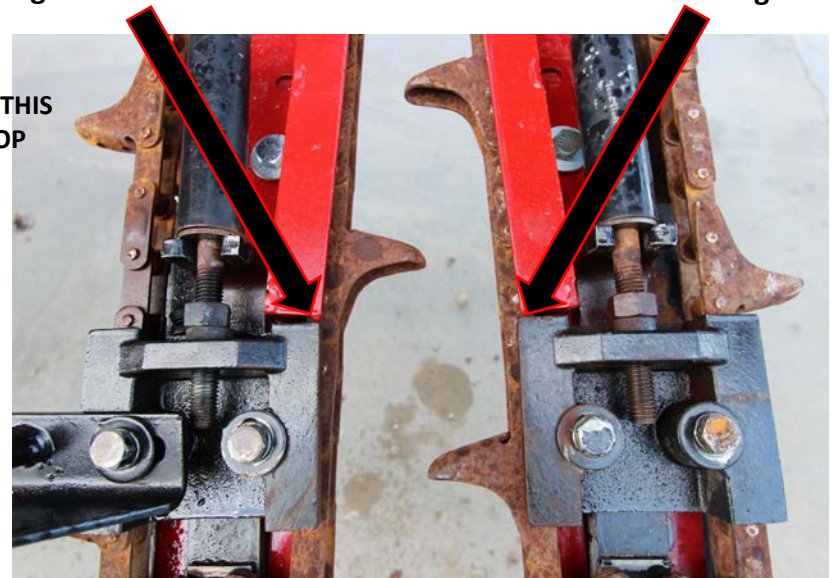
Install chain guides with discs as shown, and loosely install all hardware. At this time, you should TEST-tighten the 16mm large hex bolts holding the discs down. The discs should turn reasonably hard against each other but not lock up. Turning one disc should force the other disc to turn. Change shim arrangements as needed to make the discs turn with good scissor action, but ALWAYS have at least one shim under each disc so that the discs are not setting directly on top of the decks. Torque 16mm bolts to 150 ft.-lbs.

**Align the inside edges of the red, ARRO-supplied chain guides with the stock black chain tensioner blocks. At this time install hood support brackets.**



Align here

Align here



Reinstall chain guide tensioner assemblies. Tighten all hardware. Install gathering chains noting that the “lugs” must be staggered evenly, and tighten pre-load springs per the combine header service manual specifications, approximately 1/8” to 3/16” gap at the adjusting bolt head.



Remove ear saver flaps. Check that all tools and parts are removed from header and auger trough. Start the combine and run the header slowly and check for excessive noise, which is usually caused by worn out gathering chains.

Remove



Remove



8-Lug gathering chains should be used with ARRO kits.

# To Increase Auger RPM

**Stock auger sprocket assembly orientation shown below.**

**Slower auger speed shown.**

**Big sprocket is on the inside, away from the mounting flange.**



**To properly match auger speed to feeder house speed, flip this sprocket assembly. You will gain 150 auger RPM by doing this.**

**Will require added chain links or new chains.**

**Big sprocket is on the outside after the changeover, nearest to the mounting flange.**





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# Casell 3200- & 3400-Series

ARRO recommends that the combine make a short round in the field, then shut off machine, pull up all snouts and check to make sure gathering chains are tight and the rotating discs are warm but not hot to the touch. Re-shim discs as needed if they are running hot or there is too much gap between any pair of discs, extra shims are provided. The chain guides are designed to minimize bunching of stalks/leaves, but the ARRO installation should be checked at least once daily during use. We anticipate trouble-free operation with the ARRO kit installed.

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