



Macdon D60 (CA20) - D65 (CA25) - D/FD1 (FM100)

Operation and adjustment: iPaddock Typhoon Feed Drum

Retractable finger timing

Marking a significant improvement over other feed drums, Typhoon allows you to easily and repeatably adjust the retractable finger timing through a broad range of 150 degrees.

To set the timing, loosen the nut on the quick set adjusting arm, adjust it to the desired position, then tighten the nut again. If the lever becomes tight over time, a 1/2" square hole is provided to allow more leverage with a socket drive bar. Read the arm position against the top edge of the arm, as indicated by the arrow shaped hole in the arm.

The recommended initial quick-set position for the retractable fingers is at **position 7**. In this setting the fingers reach maximum extension at about 45 degrees after (forward from) top dead centre, allowing them to be fully retracted by the time they are coming up the back side of the rotation, which minimizes the chance of catching crop and creating repeats over the drum.

If you experience repeating you should advance the finger timing. This is done by setting the timing lever to a lower position number. Most feeding issues are a result of excessively retarded finger timing.

Light and droughted crops

In very short and light crops it may be an advantage to retard the finger timing (i.e., increase the setting number) to maximize the length of the fingers at the bottom of the stroke.

If light crop material is perching on the deck in front of the Typhoon, adding sections of corflute (or similar plastic or rubber batts) to the reel fingers with self-tapping screws may help move the material further towards the back of the mats, while creating a fan effect in the center, both of which help to minimize this issue.

Canola and bulky/fluffy crops

To maximize the speed benefits of the Typhoon in canola and bulky crops, we strongly recommend adding 100mm rubber paddles to the steel paddles in the center of the standard Macdon top cross auger. Modifying the brackets to move it forward and down by 50-75mm is also helpful.

NOTE: Ensure that the paddles cannot touch the flighting on the Typhoon when it floats up over lumps and obstacles.

Advancing the finger timing (i.e., reducing the setting number) may be useful in crops that sit up very high in the front.

General settings

Other recommended initial settings include setting the height of the Typhoon so that the flighting has approximately 10mm clearance above the metal deck. With the increased depth and width of slot created by the Typhoon compared to the factory feed drum, you it is generally not necessary to raise the height of the Typhoon, even in heavier crops.

NOTE: Always check the height of the Typhoon above the deck with the front lifted on the feeder house and tilted fully forwards, as it may touch the deck even when it was clearing the deck when adjusted on the comb trailer.

The genuine Macdon downforce spring tension kit is strongly recommended, as are the Macdon concave shaped deflectors behind the outer flights on the Typhoon.

Slip clutch and reversing clutch

There have been instances of farmers believing the slip clutch in their Macdon front has failed when the issue was coming from the poor feeding of their feed drum. In many instances it has not been necessary to replace the slip clutch once the new Typhoon is fitted.

However, if you still experience regular blockages which can't be resolved using the settings mentioned above, the slip clutch in the Macdon adaptor drive casing may need to be replaced.

Unlike the Macdon factory feed drum, the Typhoon does not have or require an internal reversing clutch.

Narrow body machines

The Typhoon has been optimized for providing a full width feed into standard "wide body" feeder houses. For optimum performance on a "narrow body" feeder house it is recommended that you add flighting extensions to the inner ends of the outer flights. Please contact us if you require the extensions.

Fitting instructions: iPaddock Typhoon feed drum

(Right and left refer to as looking forward on the machine)

To remove the original feed drum:

It is not necessary to remove the adaptor for this job. However, it will be necessary to remove the front from the feeder house of the header (combine) to allow access from both sides of the drum.

Attach a lifting strap to carry the center of the drum from the top main beam of the draper front.

Remove the plastic covers from both ends of the feed drum.

D60: Remove and discard the original half circle plastic lip which sat to the rear side of the drum on the drive end.

D60: Open the inspection cover on the left (drive) end of the original drum, remove the left end bearing nut locking tab and remove the bearing nut. (Place a clean rag under the stub shaft to catch the bearing in the next step)

D65/D1: Remove the bolts attaching the cast "spider" to the drum at the left (drive) end. Loosen (but don't remove) the 2 large Cuphead bolts attaching the feed drum to the drive end swingarm. Open the inspection cover on the left (drive) end.

Undo the fasteners holding the right end of the drum to the support swingarm, then move the swingarm outwards, away from the drum.

Move the drum to the right and forward at the righthand end, to slide the drum off the stub shaft at the drive end. Take care not to damage the draper mats.

D60: The inner bearing will fall off the stub shaft into the drum. It is important to keep this clean if you intend to reuse this bearing. If it is worn or damaged, you should replace it with a new bearing. Leave the rear bearing on the stub shaft to be used with the Typhoon.

You can now maneuver the drum out through the rear opening of the adaptor.

D65/D1: After removing the feed drum, remove the bearing retaining nut, the pitman arm, and the key from the drive end stub shaft. Leave the spacer washer on the stub shaft, to be used with the Typhoon bearing hub. Remove the torx head sprocket retainer from the drive sprocket. Note: the key will not be required with the Typhoon feed drum.

The drive sprocket will slide off the splined drive shaft together with the driven sprocket and chain. Note the offset orientation of the drive sprocket.

To fit the new iPaddock Typhoon:

Fitting the iPaddock Typhoon is the reverse of the removal steps, with note of the following points:

D60: Fit the sprocket and bearing hub from the original feed drum to the Typhoon. Use loctite on the threads and no washers.

D65/D1: Fit the original sprocket with the new supplied bearing hub to the Typhoon. Use loctite on the threads and no washers.

Maneuver the Typhoon into the opening from the rear. Support the Typhoon in the center with a lifting strap.

Move the Typhoon forward at the right-hand end.

Align the drive end bearing hub over the stub axle, then move the Typhoon left onto the stub.

D60: Put the internal tapered bearing, washer and nut onto the stub and do the nut up loosely to still allow some fore/aft swing of drum while completing the installation.

D65/D1: Fit the bearing retaining nut loosely to the stub shaft before fully sliding the hub onto the stub shaft.

Secure the timing lever and timing end plate to the shaft using the stepped bolt provided, aligning the countersunk hole in the crankshaft with the larger hole on the handle.

IMPORTANT: The correct orientation of the quick set retractable finger timing mechanism is critical for correct performance of your Typhoon feed drum. When positioned correctly, in the recommended position 7 the retractable fingers should be fully extended 45 degrees forwards from top dead center. This must be checked once the Typhoon has been installed.

D60: Inspect the original right end support for hairline cracks. It is recommended to weld reinforcing plates onto this support, which is known to crack where the small triangular section is welded to the larger plate. For extra support for the original Macdon bracket, drill a hole in the original right-hand support and add an extra bolt through the hole provided on the new Typhoon quick-set timing plate.

Attach the quick-set timing end plate to the original right hand swingarm support. The original plastic covers are not required for the Typhoon.

D60: Tighten the drive end bearing retaining nut enough to remove end float, taking care not to over tension the bearing. Lock the nut using the original locking tab, with a ½" nut as a spacer under the cotter bolt that secures the locking tab to the original stub shaft.

D65/D1: The replacement bearing hub uses two bearings with a spacer which prevents excess bearing preload. Tighten the self-locking bearing retaining nut fully against the inner bearing.

Install and tighten all fasteners at both ends.

IMPORTANT: RISK OF FIRE OR DAMAGE: check for a clear gap at both ends of the drum to ensure that no brackets, fasteners or covers rub on the drum when rotating.

Check that the retractable finger timing is fully extended 45 degrees forward to top dead center with the timing lever set at position 7.



The iPaddock Twister is designed to adjust, and then lock the feed drum drive chain tensioner in position on Macdon D60 (CA20) and D65 (CA25) draper fronts with Typhoon feed drums, Turbodrums, or the original Macdon feed drum fitted.

Installation:

- Remove the plastic cover over the drive sprocket at the rear of the left side of the feed drum.
- Undo and remove the chain tensioner sprocket and bolt. Note the position of spacers, washers etc.
- Replace the original bolt with a 3" x 5/8" bolt (insert the new bolt in the sprocket bearing so the nut is outwards), refit any washers, spacers etc. Fit the sprocket and bolt back into the mounting slot.
- Fit the Twister with the cam slot over the threaded end of the bolt from the outside (left side) of the housing. Ensure the Twister spigot pin is located in the top of the original adjustment slot
- Fit the original self-locking flange nut to the bolt, which will be used to clamp the Twister in position, and adjust the nut to a loose fit
- Rotate the Twister with your hand to push the tensioner downwards via the cam shaped track in the Twister. The Twister design creates high torque with hand effort only. Take care not to over tension the chain.
- Once the correct chain tension is achieved, tighten the nut as tight as possible with appropriate hand tools. There should be a small amount (5-10mm) of loose vertical play on the lower side of the chain.
- Re-check the chain tension before refitting the cover. Note: Some D65 models may need the cover to be trimmed slightly to fit back on with the Twister installed.



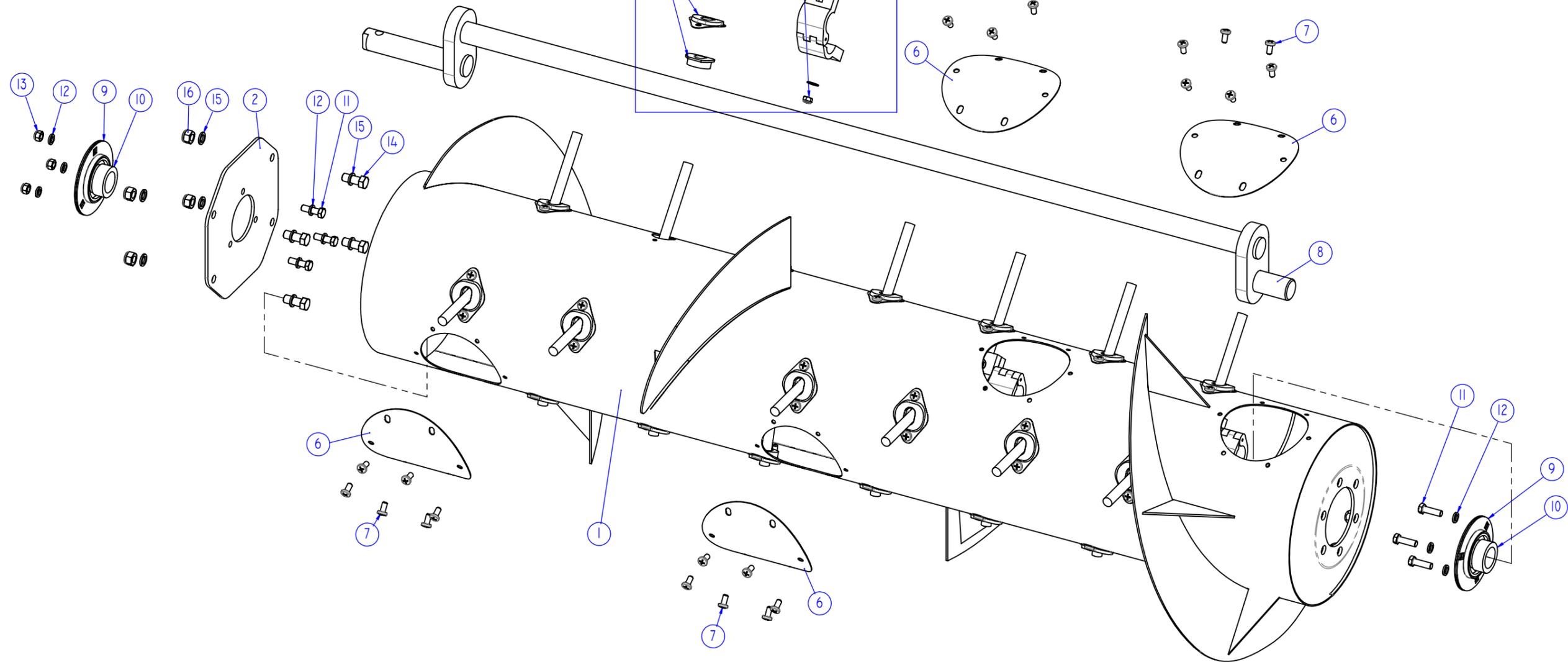
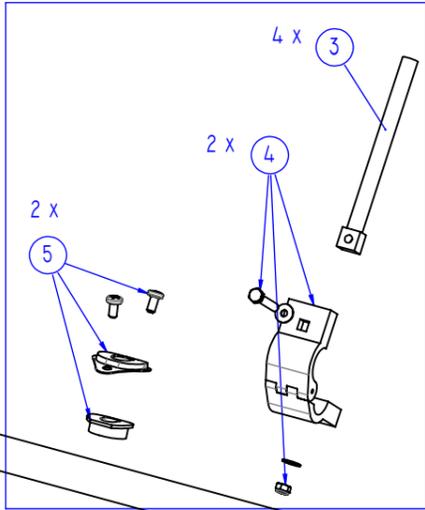
iPaddock Built, tried and tested in the real world by real farmers

11/11/2021

DIMENSIONS IN MILLIMETRES
DO NOT SCALE

ITEM NO.	QTY.	PARTNO	DESCRIPTION / MATERIAL
1	1	TY-DS	DRUM SHELL
2	1	TY-BMP	BEARING MOUNTING PLATE
3	25	TY-FR-MD	FINGER
4	25	TY-FH-KIT	FINGER HOLDER ASSEMBLY
5	25	TY-FG-KIT	FINGER GUIDE KIT
6	4	TY-IHC	INSPECTION HATCH COVER
7	24	HPJD-1716-S	MACHINE SCREW, THREAD FORMING, PAN PHILIPS WITH SERRATED FACE
8	1	TY-ICS-2	INTERNAL CRANK SHAFT
9	2	BRGH-PF72	BEARING HOUSING - FLANGE 3 BOLT PRESSING
10	2	BRG-YET207	BEARING
11	6	B-114-38-UNC-G5	HEX BOLT 3-8" x 1,1-4" UNC G5 ZP
12	9	B-WM10-NL	NORD-LOCK WASHER - M10, ZP
13	3	B-N38-UNC-NYL	NYLOC NUT - 3-8" UNC
14	4	B-114-12-UNC-G5	HEX BOLT 1-2" x 1,1-4" UNC G5 ZP
15	8	B-WM12-NL	NORD-LOCK WASHER - M12, ZP
16	4	B-N12-UNC-NYL	NYLOC NUT - 1-2" UNC

FINGER STARTER KIT
PART NUMBER: TY-FR-KIT-MD



REV.	DRAWING REVISION	DATE	BY	CHKD

DRAWING NOTES:
FINISH : NA

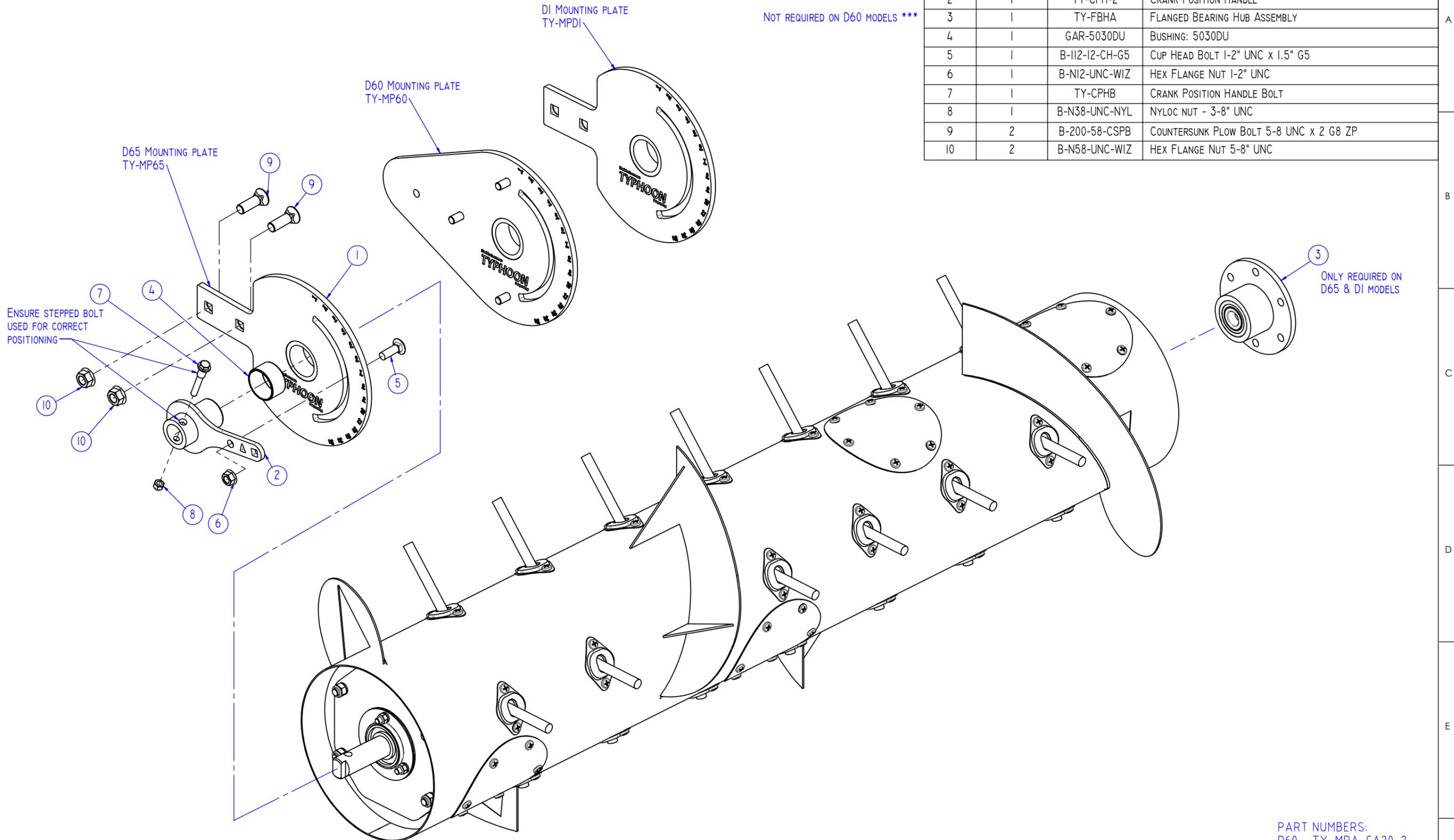
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DRN BY SBJ	DRN DATE 11/8/2021
CHKD BY MF	CHKD DATE 11/8/2021

TITLE IPM TYPHOON DRUM ASSEMBLY FOR INSTRUCTIONS	
PART NO TY-DA-2	WEIGHT(KG) 71.0
DRAWING NO TY-DA-2-INS	REVISION -

DIMENSIONS IN MILLIMETRES
DO NOT SCALE

ITEM NO.	QTY.	PARTNO	DESCRIPTION / MATERIAL
1	1	(REFER TO VIEW)	MOUNTING PLATE
2	1	TY-CPH-2	CRANK POSITION HANDLE
3	1	TY-FBHA	FLANGED BEARING HUB ASSEMBLY
4	1	GAR-5030DU	BUSHING: 5030DU
5	1	B-112-12-CH-G5	CUP HEAD BOLT 1-2" UNC x 1.5" G5
6	1	B-N12-UNC-WIZ	HEX FLANGE NUT 1-2" UNC
7	1	TY-CPHB	CRANK POSITION HANDLE BOLT
8	1	B-N38-UNC-NYL	NYLOC NUT - 3-8" UNC
9	2	B-200-58-CSPB	COUNTERSUNK PLOW BOLT 5-8 UNC x 2 G8 ZP
10	2	B-N58-UNC-WIZ	HEX FLANGE NUT 5-8" UNC



PART NUMBERS:
D60 - TY-MPA-CA20-2
D65 - TY-MPA-CA25-2
D1 - TY-MPA-D1-2

REV.	DRAWING REVISION	DATE	BY	CHKD

DRAWING NOTES:

				TITLE IPM TYPHOON MOUNTING PLATE ASM FOR INSTRUCTIONS	
© COPYRIGHT IP Machinery Pty Ltd 2020. All Rights Reserved.		DRN BY SBJ	DRN DATE 10/8/2021	PART NO -	WEIGHT(KG) 10.28
A3		CHKD BY MF	CHKD DATE 10/8/2021	DRAWING NO TY-MPA-2-INS	REVISION -