

# John Berends Implements Pty Ltd

AGRICULTURAL ENGINEERS

## OPERATOR'S MANUAL PARTS LIST



### LINKAGE OFFSET DISC PLOUGHS

**PRODUCT NO.**

0247	10 Plate (all scalloped)
0248	12 Plate (all scalloped)
0249	14 Plate (all scalloped)
0250	16 Plate (all scalloped)
0252	18 Plate (all scalloped)

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# SAFETY



Farm machinery is dangerous if operated incorrectly so please read this manual in its entirety prior to operating the machine.

 No operator, however experienced in farm machinery operation, should attempt to use any machine they have not been competently trained to use. Your local Department of Agriculture can help you with training, as can most Occupational Health and Safety offices, Agricultural schools and colleges and farm equipment dealerships.

 All instructions relating to tractor safety as per the tractor operators manual should be followed. When making any machine adjustments, stop the tractor engine first and wait for all moving parts to stop. Maintain the tractor to ensure it remains safe to use. Do not operate faulty or damaged equipment.

 Extreme caution should be taken when fitting equipment to the tractor's three point linkage. Avoid standing between the implement and the tractor when coupling machinery.

 All machines should be mounted and retained correctly. All guards must be kept in place and correctly maintained. P.T.O. shafts must be correctly attached and secured to both the tractor and the machine. Decals must be visible and legible at all times. Keep well clear of all moving parts.

 Keep all people and animals at a safe distance from all moving parts. Children must not be allowed to operate this equipment and all passengers must have the same level of protection as the operator.

 Wear protective clothing where appropriate.

 Never operate when tired (not alert) or in poorly lit areas and stay alert for humps and other hidden hazards. Remove all timber, rocks and foreign objects prior to operation.

 Avoid operating the machine in wet conditions.

 Exercise extreme caution when changing direction on hills. Avoid sudden movement, sudden breaking, high speeds, rough terrain and steep slopes.

-  If machine starts to vibrate, stop tractor, turn off engine and investigate.
-  After striking a foreign object or if there are doubts about the performance of the machine, stop the tractor as described and check if machine is making excessive noise.
-  Extreme caution must be taken when working in public areas (roadsides etc). It is recommended that flaps and chains are fitted to slashers when operating in public areas. These are available as optional extras. Rear flaps are compulsory in public areas.
-  Watch overhead clearance and beware of underground pipes and cables.
-  Where fitted, hydraulic hoses and fittings must be maintained so as to prevent damage.
-  Do not modify this equipment in anyway, or use it for any other purpose than it was designed to do.
-  Never work under unsupported machines or adjust unsupported machines. Do not enter the danger zone where a load being carried by a machine could fall on you, for example a round bale from a bale fork, a log from a carryall or material from a rear end loader.

These instructions should be used in conjunction with any local regulations regarding safety ie OHS.

**Maintenance is essential for safe operation. Ensure maintenance is carried out regularly by people qualified to do so. This is of particular importance on P.T.O. drive machines where driven parts can fly off at high speed if wearing parts are not properly maintained.**

**FAILURE TO FOLLOW THESE INSTRUCTIONS AND PROCEDURES MAY RESULT IN EQUIPMENT MALFUNCTION, OR DAMAGE, SERIOUS INJURY OR EVEN DEATH.**

**INTRODUCTION:**

This manual was developed specifically for the machine you have purchased. The information within is to assist you in preparing, operating and maintaining your machine. Please read and understand the contents of the manual completely before attempting to operate your machine, paying special attention to all safety details. With our policy of continuous improvement, products and specifications may change without notice and without incurring the obligation to install such changes on any unit previously delivered.

**Offset Disc Ploughs**

Offset discs are a popular primary cultivation tool with good reason. Discs can cut up and mix in trash, are very hard wearing, long lasting and easy to use. They will chop up matted pasture where a chisel plough will have difficulty breaking down the matted turf once it is floating around the surface. Berends discs are fitted with very high quality discs manufactured by one of the worlds leading disc manufacturers. They have a 28mm (1 1/8") gang bolt axle and all bearings are triple lip sealed and are encased in a protective flange mounting.

**MACHINE SPECIFICATIONS**

MODEL	10 plate	12 plate	14 plate	16 plate	18 plate
No. Discs	10	12	14	16	18
Diameter	18" (450mm)	20" (500mm)	22" (550mm)	22" (550mm)	22" (550mm)
Thickness	4mm	4mm	5mm	5mm	5mm
Working width	1125mm (3'9")	1350mm (4'6")	1600mm (5'3")	1825mm (6')	2050mm (6'9")

**WARRANTY**

John Berends Implements P/L warrants each new product sold to be free from defects in material and workmanship, under normal use and service, as outlined in the operators manual, for a period of 12 months.

This warranty is void if any damage to the machine has been caused by misuse or non genuine parts have been used or any repairs have been made by any persons other than authorised dealer service personnel.

The manufacturer/dealer is not obligated to any transportation charges incurred in the repair or replacement of parts.

This warranty does not exclude any condition or warranty implied by the Trade Practices Act 1974 or any other legislation which implies any condition which cannot be excluded.

# Safety Features

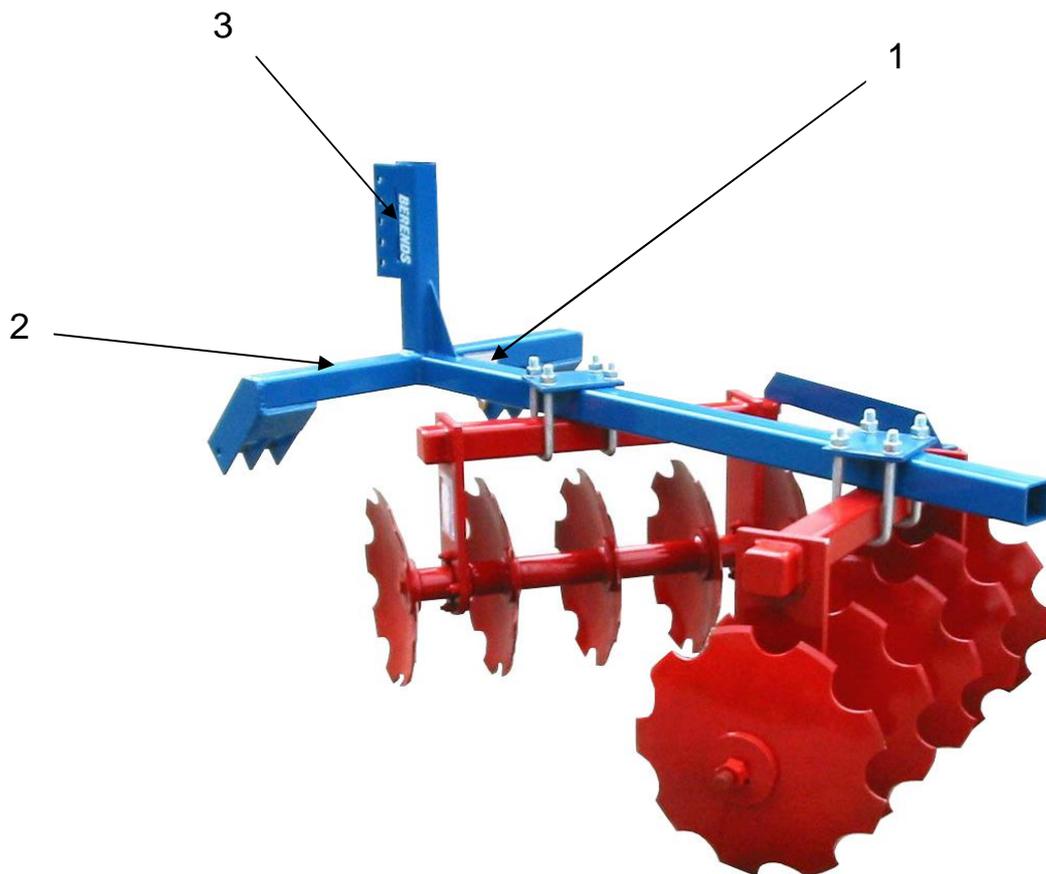
## 1. SERIAL NUMBER DECAL



## 2. WARNING DECAL



## 3. BERENDS DECAL



## **ASSEMBLY**

Use the set-up sheet at the back of this manual to set the gang angles in the right position. This is a guide only and different ground conditions may require minor alterations to those shown.

It is best if the gangs are put into position first before mounting the frame. Support the gang frames so that they will not roll or fall over. Lower the frame onto the gangs and support with the U-bolts and clamp plates supplied. All U-bolts must face upwards. Initially keep the U-bolts loose until they are all connected, slide the frame (or gangs) into the position as shown on the set-up sheet and then secure the nuts/spring washers tightly.

The 10 and 12 plate models have a support bar to connect the right hand side of the gangs.

Line the lower linkage arms between the lower linkage plates of the plough, slide the linkage pins through the holes and secure with lynch pins. Attach the top link to the plough. The lower linkage arms must be level with each other. The tractor top link may need to be adjusted to ensure the machine is parallel to the ground when working. However, never have the top link horizontal as this will cause the plough to move sideways and make it difficult to track. It may be necessary to remove the tractor drawbar to prevent interference with the discs.

### **Offset Disc Set up – (see set-up sheet)**

The two gangs of the offset disc should pull equally opposing each other in work so there is no side thrust on the tractor. The movement of soil by one gang should be counteracted by the other so the disc leaves a level finish. The Berends disc adjustments are infinite so with perseverance most ground conditions can be catered for. Adjustment is very simple, the U bolts which clamp the gang on are simply loosened and the gangs can be adjusted laterally and for angle.

### **Angle**

The front gang is always working in harder ground than the rear gang, so there should always be approximately two degrees more angle on the rear gang to compensate. The more angle, the greater the bite of the disc. It should be remembered that the disc must also be level, as more depth on either the front or the rear gang will cause side thrust. This is important in setting up the three point linkage lift. If the machine starts to lift unevenly side thrust will occur, as the machine is lifted for corners or to reduce draft. The front gang should be in the region of 21 to 23 degrees as a guide, and the rear 23 to 25 degrees. A degree is one in 60, so an in field adjustment can be measured with a tape measure.

### **Offset**

As the front gang throws soil and the rear gang has to pick it up, the front gang has to be offset about half a disc (4 1/2") from the rear gang. Note both gangs can be offset on the frame if you require the machine to work off centre. Remember the distance soil is thrown depends on soil type and speed travel, so it may vary.

## **OPERATION**

Once all safety procedures have been followed, start the tractor and raise the plough off the ground.

### **- Turning**

When turning with the plough, always turn into the vee of the gangs (to the right) when operating around corners, otherwise if turning away from the vee of the gang (to the left) the discs are to be raised clear off the ground until the turn is completed.

### **Reversing**

Never reverse with the discs in the soil, but make sure they are fully raised.

### **Stopping**

Lower the plough, stop the tractor engine (removing the ignition key) and apply the park brake. Ensure that the plough is well supported when not in use.

**CAUTION:** When the plough is on the ground, yet not linked to the tractor, it may be unstable. Make sure that discs are unable to roll backwards by placing a wedge behind the discs eg a block of wood.

## **MAINTENANCE**

When doing any type of maintenance on this machine, always follow the safety steps described in this manual. Use only authorised genuine parts for replacement. The discs must be adequately supported under its body (Make certain it cannot move/fall).

### **Bolts & Nuts**

Keep all bolts tight, in particular gang bolts.

### **Gang Bolts**

Don't forget to keep the gang bolts tight with regular checks, particularly when the machine is new (when the machine is new friction will cause the disc and spacers to wear in). The gang bolt is vulnerable to damage or breakage if not in tension and damage caused because of loose gang bolts would void warranty.

### **Disc Bearings**

These are of the pre-lubricated type and will not require attention through their long life. Although protector plates will prevent most material from getting into the bearing, objects such as grass and wire wrapping around the bearing should be removed regularly to prevent early bearing failure.

# SPARE PARTS

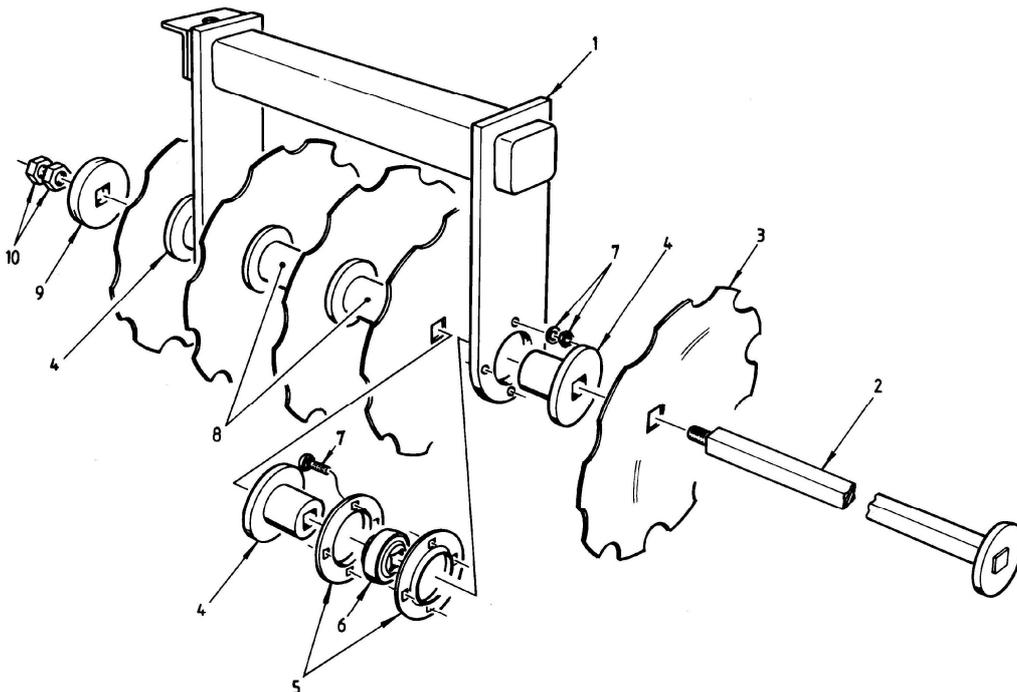
ORDER SPARE PARTS THROUGH YOUR ORIGINAL SUPPLIER OR YOUR LOCAL JOHN BERENDS IMPLEMENTS DEALER.

Always quote the machine serial number or product number, spare part number and its part name as stated in the operator's manual.

## Berends offset discs - gang assemblies

10 to 16 plate have four bearings, the 18 plate six bearings. All have two axles.

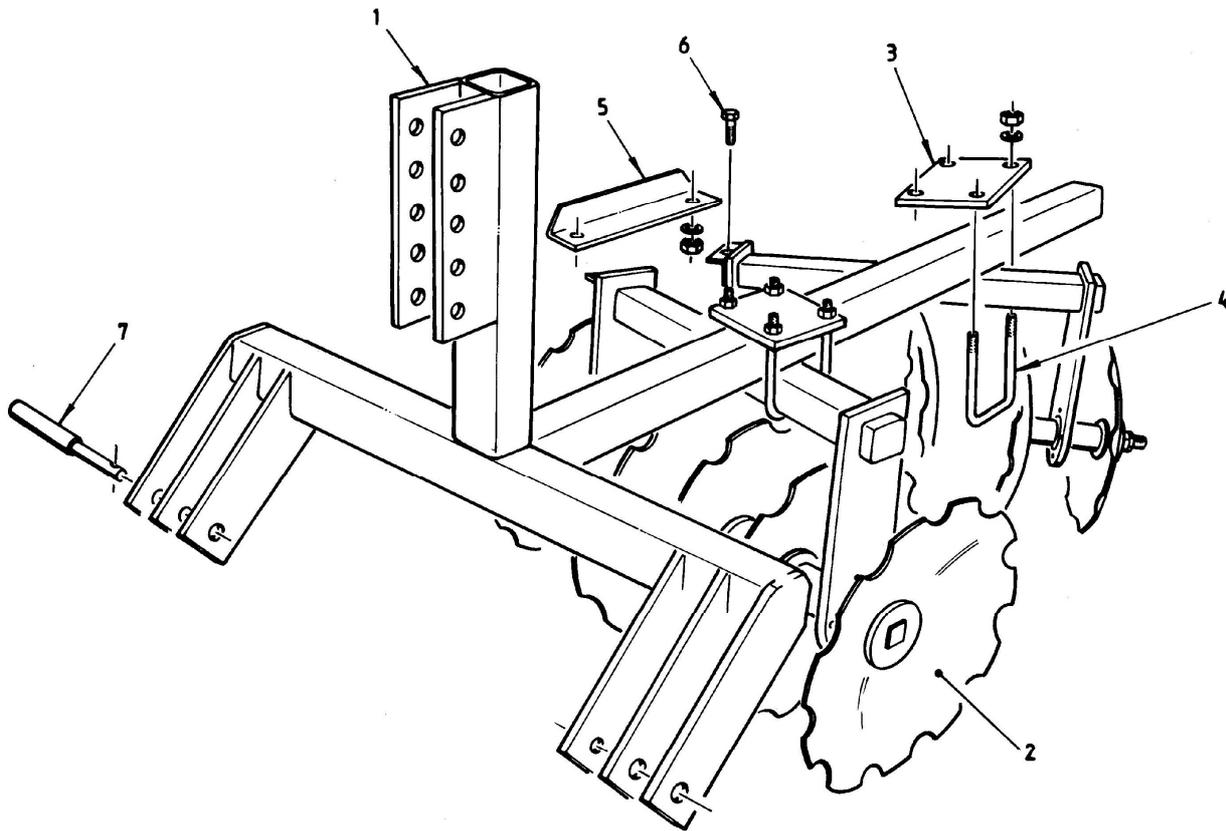
Key No	Part No	Quantity	Description
1		2	Gang frame
2	3314	2	5 disc gang bolt axle (10 plate disc)
	3315	2	6 disc gang bolt axle (12 plate disc)
	3316	2	7 disc gang bolt axle (14 plate disc)
	3317	2	8 disc gang bolt axle (16 plate disc)
	3318	2	9 disc gang bolt axle (18 plate disc)
3		ar	Discs - refer discs price list
4	3319	ar	Bearing spacer spool
5	3320	ar	Flanges (per pair)
6	3321	ar	Sealed bearing
7	3322	ar	Coach Bolt/nut/sw
8	3323	ar	Disc spacer spool
9	3324	2	End washer
10	3325	4	Axle locknut



### Berends offset discs - top frame assemblies

10 and 12 plate have a single beam shown in drawing below, 14,16 and 18 have a dual beam frame as shown in drawing on previous page.

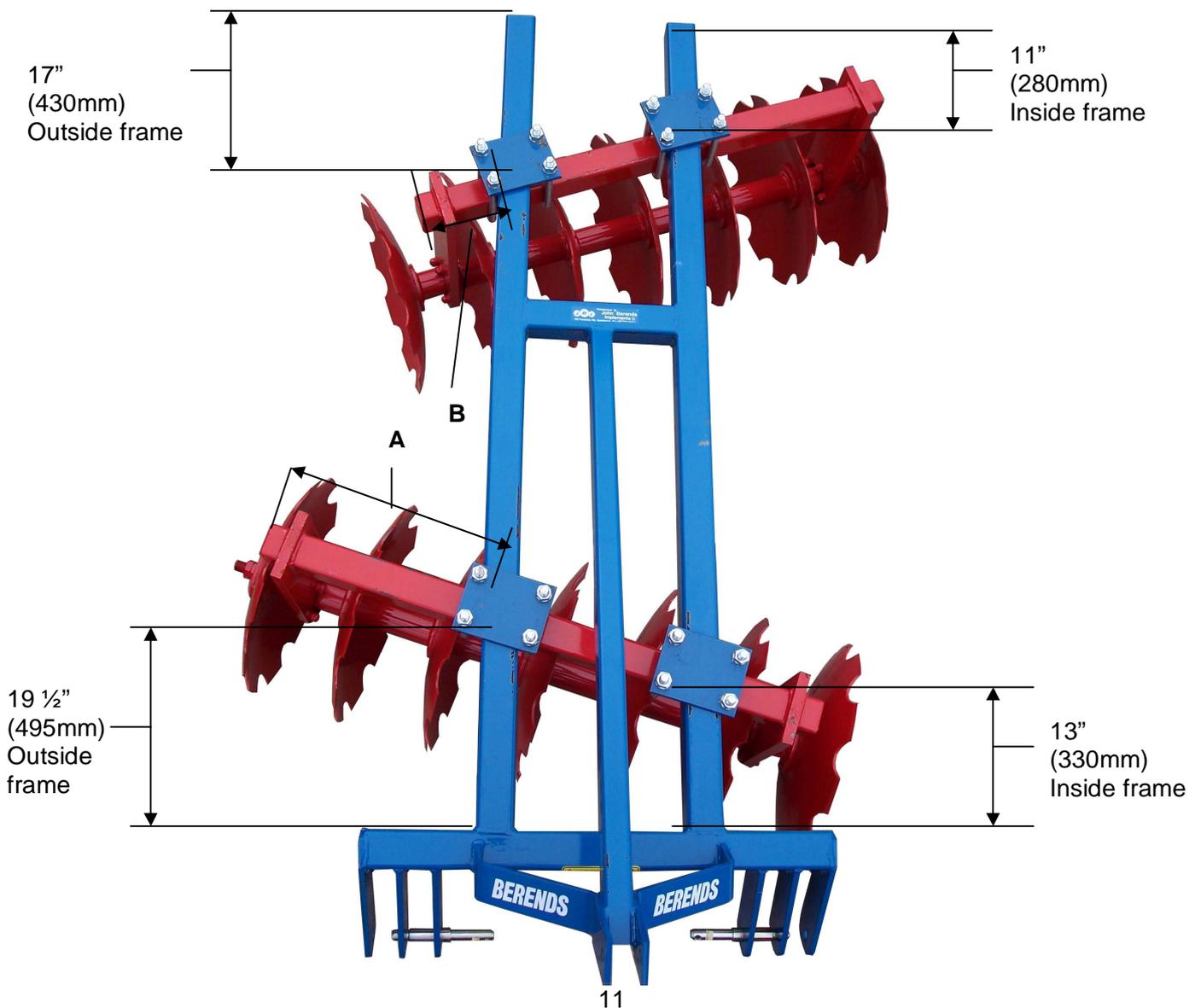
Key No	Part No	Quantity	Description
1		2	Top frame
2		2	Gang
3	3326	2	Clamp plate 10 and 12 plate
	3326	4	Clamp plate 14, 16 and 18 plate
4	3327	4	U bolt 10 and 12 plate
	3327	8	U bolt 14, 16 and 18 plate
5		1	Tie bar 10 and 12 plate only
6	1954	2	Bolt/nut/sw for tie bar 10 and 12 plate only
7	1971	2	Cat 1/2 stepped push through pin.



# Berends Offset Disc Plough Set-up

14, 16 and 18 plate models only

Position	14 plate	16 plate	18 plate
<b>A</b>	19" (480mm)	22 ½" (570mm)	26" (660mm)
<b>B</b>	7 ½" (190mm)	13" (330mm)	17 ½" (445mm)



# Berends Offset Disc Plough Set-up

10 and 12 plate models only

Position	10 plate	12 plate
<b>A</b>	21 ½" (550mm)	26" (660mm)

