OPERATOR'S MANUAL

No. OM-A12-647

JOHN DEERE

★

This manual contains correct information regarding lubrication, operation, maintenance, setting-up and parts.

★

M10 SERIES TRACTOR CULTIVATOR

For JOHN DEERE Model "M" Tractor

For the best service see your
JOHN DEERE DEALER
Use Only Genuine John Deere Parts

YOUR NEW CULTIVATOR

Behind your new cultivator is an organization that has designed and built farm implements for over 100 years. This cultivator was built in a John Deere Factory by experienced men, many who have worked in this large plant from ten to forty-five years, thus assuring the utmost in design, high-grade workmanship, and thorough inspection, so essential to the production of good cultivators.

High quality materials, precision production methods, and accurately controlled heat-treating assure maximum strength and long life for every part.

This manual has been carefully prepared and profusely illustrated so that you may make the necessary adjustments for adapting your cultivator to work properly in all types of field cultivation. These adjustments such as row spacing and proper leveling of shovels or sweeps are fully covered in this manual. Study the manual carefully and make it your guide.

Occasionally your cultivator may need new parts to replace worn parts or emergency service may be required that is not covered in this manual. If so, we suggest that you take advantage of the facilities offered by your John Deere Dealer; which assures you of genuine John Deere parts or other prompt "know-how" service in the field or shop.

If you will furnish your dealer the part number, description, and the information which should be recorded at the bottom of this page, when the cultivator is delivered, he can give you prompt and efficient service.

JOHN DEERE M10 SERIES TRACTOR CULTIVATOR

No. of Cultivator.....**Date Purchased 19**.....

(*To be filled in by Purchaser*)

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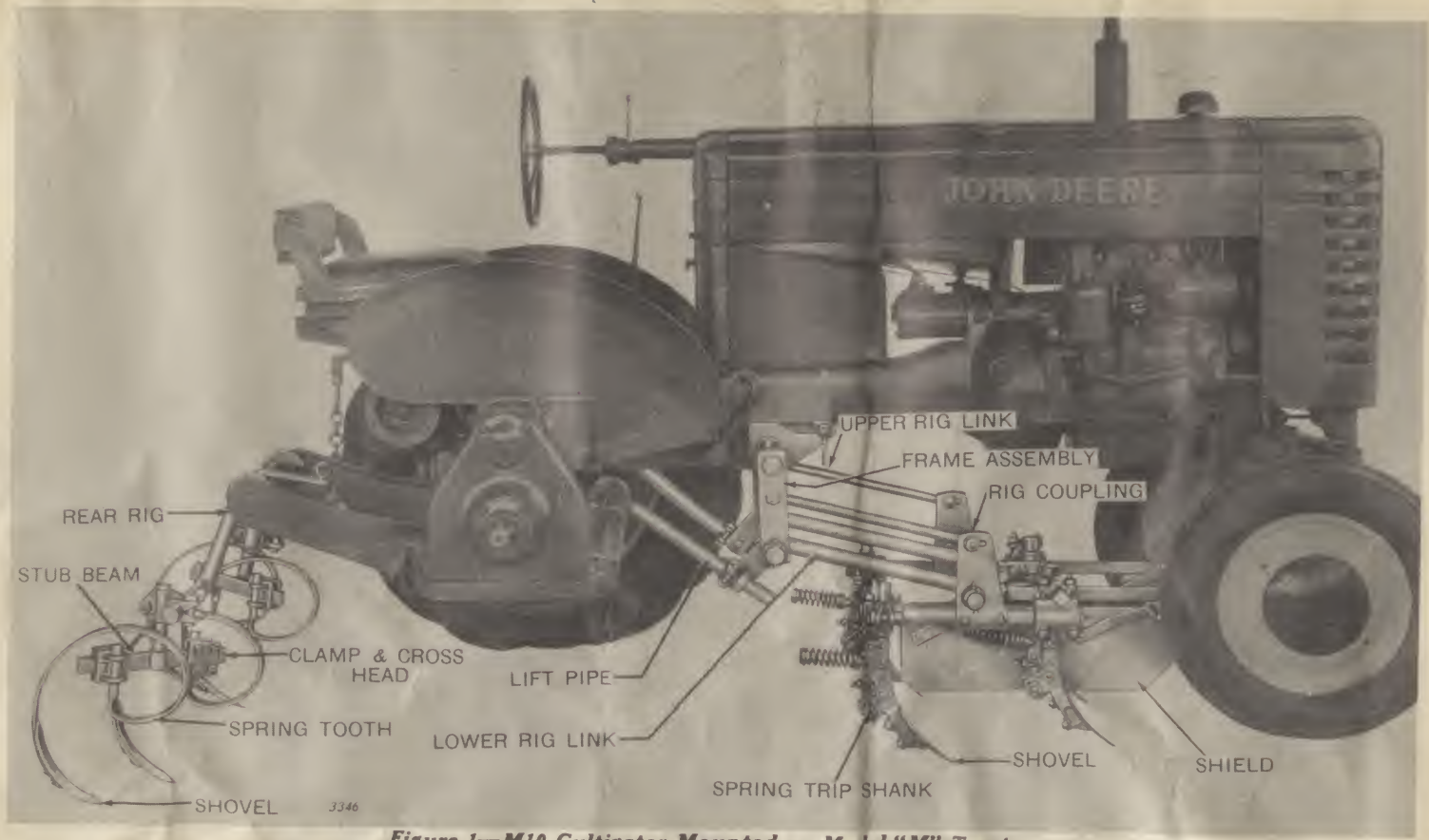


Figure 1—M10 Cultivator Mounted on Model "M" Tractor.
(Tractor Wheel Removed to Show Cultivator Detail.)

Figure 2—Cultivator in Working Position

SPECIFICATIONS

NUMBER AND TYPE OF SHANKS

Serial Number	Front	Rear	Total No. Shovels or Sweeps	Row Spacing
M12	4 Spring Trip—1-3/8" Shanks	2 Spring Trip—1-3/8" Shanks	6	28"–42"
M14	4 Single Spring Teeth	4 Single Spring Teeth	8	28"–42"
M16	4 Spring Trip—1-3/8" Shanks	4 Single Spring Teeth	8	28"–42"
M18	2 Spring Trip—1-3/8" Shanks 2 Single Spring Teeth	4 Single Spring Teeth	8	28"–42"

EXTRA EQUIPMENT

M16 SC99A 1-1/8" Shank Bundle in lieu of SC101A Shank Bundle

M14
M16
M18 For Wide Rows Up to 60", SC134A Stub Beam can be ordered in lieu of SC95A Stub Beam.

All M10 Series Cultivators are regularly shipped with SC497A Shields.

OPERATION

Good Cultivation.

This cultivator when properly adjusted will do excellent work. Adjustments are provided for various row spacings, for moving the front shovels or sweeps to or away from the crop, and for leveling the rigs.

Tractor Wheels.

Rear wheels of the tractor must be set to accommodate the row spacing. Note: See instructions on wheel tread adjustment in "M" Tractor Operators' Manual, also Row Spacing, Page 7.

Shovels and Sweeps.

Remove lacquer from shovels or sweeps with a lye water solution or with varnish remover.

Tractor Tire Inflation Pressures.

Tractor tire inflation pressure set up in Model "M" Tractor Operator Manual.

Figure 3—Driving Tractor Over Front Rigs

Attaching and Detaching Cultivator.

After cultivator has been completely assembled and located on a fairly level spot, drive the tractor forward over the front rigs as in Figure 3. Attach cultivator to tractor as shown in Figure 4. Tighten Quik-Tatch lock nuts. **CAUTION: Make sure tractor drawbar is not locked but free to operate with Touch-o-matic control.** (See Model "M" Tractor Manual.) With the drawbar in lowered position attach power lift pipes to tractor drawbar with offset power lift pipe on left side of tractor and straight power lift pipe on right side of tractor, Figure 4. Slip lift arm swivels over end of power lift pipes, Figure 4. Raise cultivator to lifted position with Touch-o-matic control and place rear rigs in position on drawbar as in Figure 5, locking in place with lock pin.

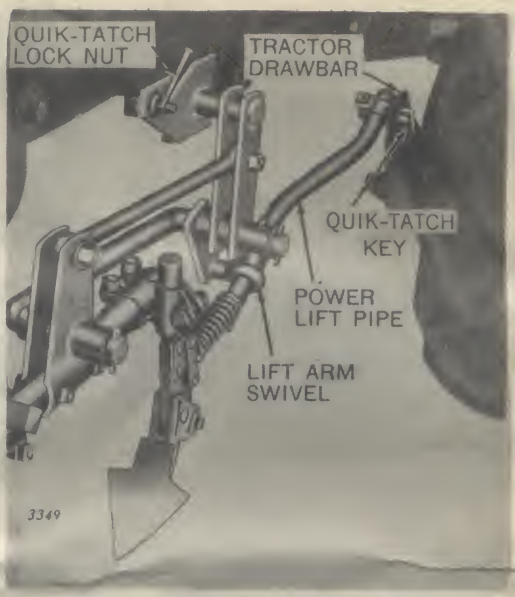


Figure 4—Attaching Front Rigs

Figure 5—Attaching Rear Rigs

To detach cultivator from tractor simply loosen Quik-Tatch lock nuts and release key on power lift pipes, Figure 4. Then pull lock pin on tractor drawbar, Figure 5 and remove rear rigs, then back tractor off front rigs.

To Lift the Cultivator.

The front and rear rigs are raised and lowered by the Touch-o-matic hydraulic control on the tractor.

Depth Control.

The Touch-o-matic control of tractor assures positive depth control of cultivator rigs at any desired depth. Drawbar lift chains must be attached to the front holes on the rockshaft power lift arms. This assures fine depth adjustment.

ADJUSTMENTS

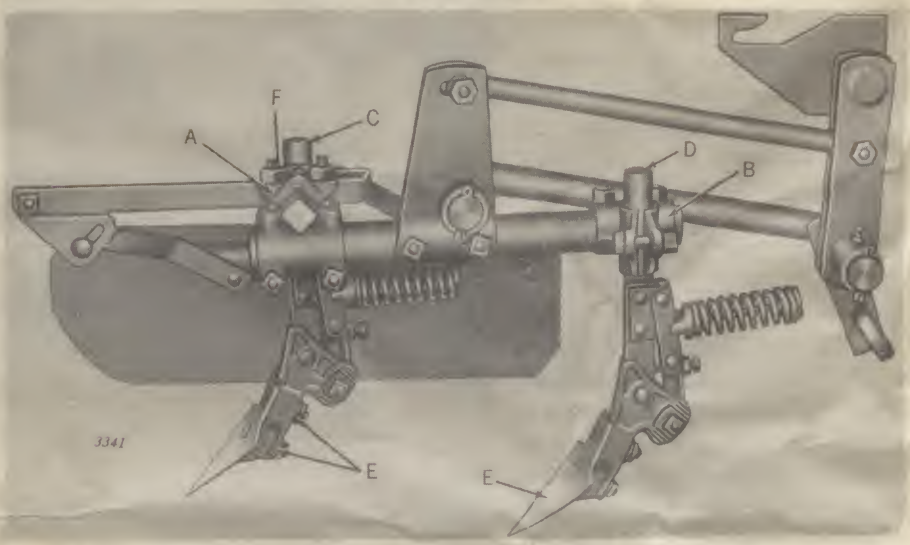


Figure 6—Adjustments on Cultivator

Leveling and Tilting Front Rigs.

The front rig lifting pipes are provided with a collar adjustment at "F", Figure 6. Adjust so that all rigs operate at the same level. Tilt the rigs up or down with slotted adjustment at "B", Figure 6.

Leveling Shovels and Sweeps.

Set all shanks so shovels or sweeps are level. Do this by first adjusting the inside front shank and shovel or sweep, and then level all shovels or sweeps to this one adjustment. By so doing, full advantage of maximum lift can be obtained. To level shovels or sweeps, loosen nut "C", Figure 6, and move shank up or down until all shovels or sweeps are level. Then tighten nut.

Figure 7—Setting Sweeps on Shanks

Setting Sweeps on Shanks.

Sweeps must be set on shanks for proper penetration. The adjustment is made at "D", Figure 6. Set sweeps as shown in Figure 7.

Shields.

The shields are bolted directly to the crossheads. This location assures that shields will be parallel at all times.

To lower or raise shields, adjust bolt in slotted hole at front end of shield arm at "E", Figure 6.

Spring Trips.

Each spring trip should be tripped, checked, and reset before using cultivator to be sure they function properly. The tension on the spring trips may be adjusted with the nut "F", Figure 6, at the rear end of the spring. If additional adjustment is required, this may be made with the set screw "G", Figure 6, which is just below the spring. However, this is a factory adjustment and rarely requires changing. One-half to one turn of the set screw makes a big difference in the action of the trip. To tighten the trip turn the set screw out; turn in to reduce trip tension.

Row Spacing.

The cultivator is fully adjustable for row spacing from 28-inch to 60-inch rows, and is shipped from the factory adjusted for 40-inch row spacing.

To adjust for various row spacings it is first necessary to adjust the tractor wheel treads as follows:

Row Spacings	Tractor Wheel Treads
28" – 38"	38"
40" – 42"	42"
44" – 60"	52"

The crossheads which support the shanks on the front rigs should be adjusted to or away from rows to the desired working distance from the crop.

The shanks on the rear rig are adjustable for rows spaced from 28 inches to 42 inches. For cultivating rows spaced wider than 42 inches, an SC134A Stub Beam (Special equipment) is required in lieu of the regularly furnished SC95A Stub Beam.

LUBRICATION

Use Alemite gun twice daily on fittings located in bearings on each end of lower rig links.

Oil all joints and moving parts twice daily. Oil all spring trip parts once every day.

Before starting in the field check the entire cultivator; make sure all nuts are tight and cotter keys spread.

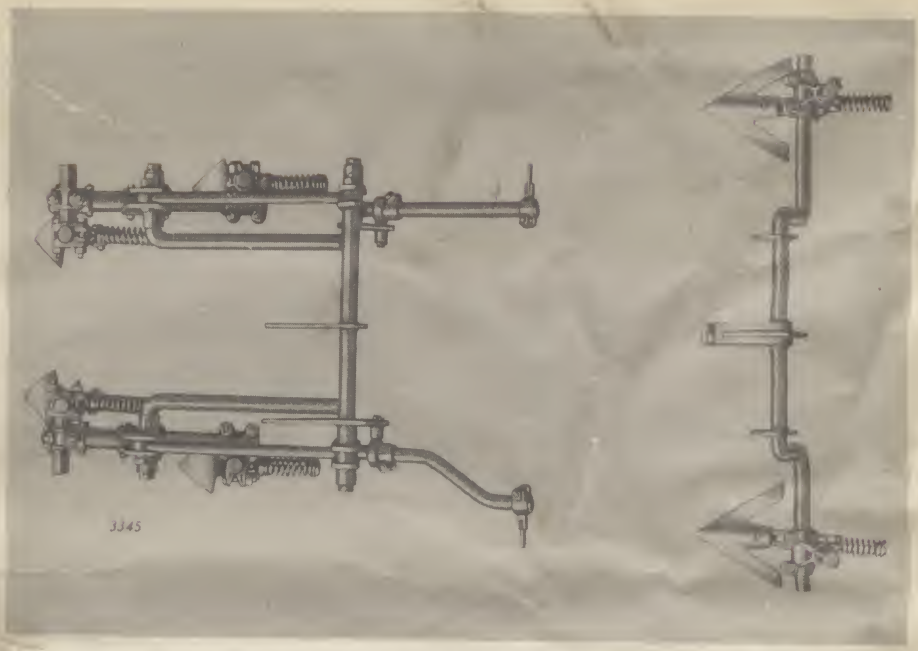


Figure 8—Overhead View, M12 Cultivator

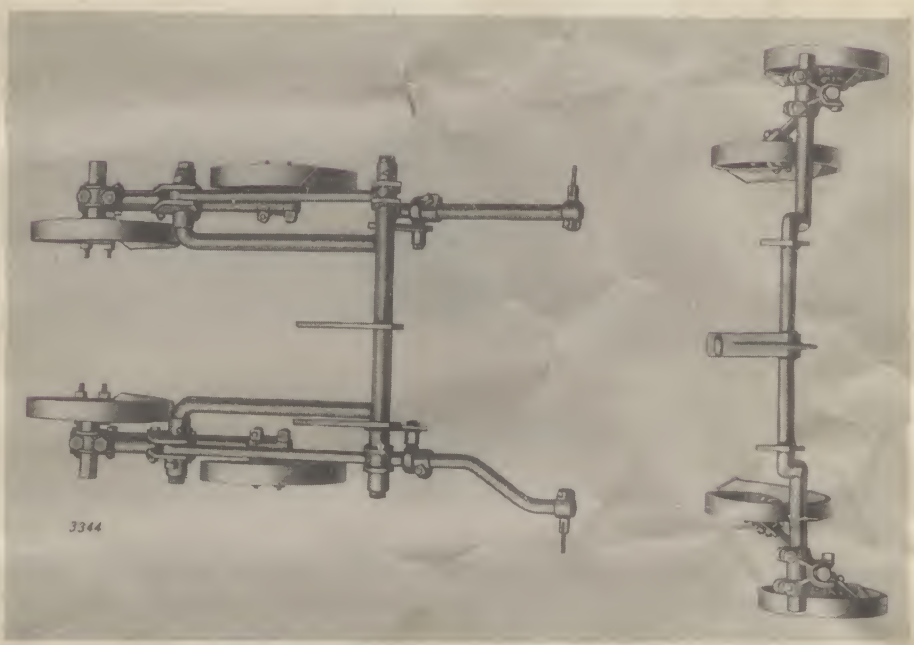


Figure 9—Overhead View, M14 Cultivator

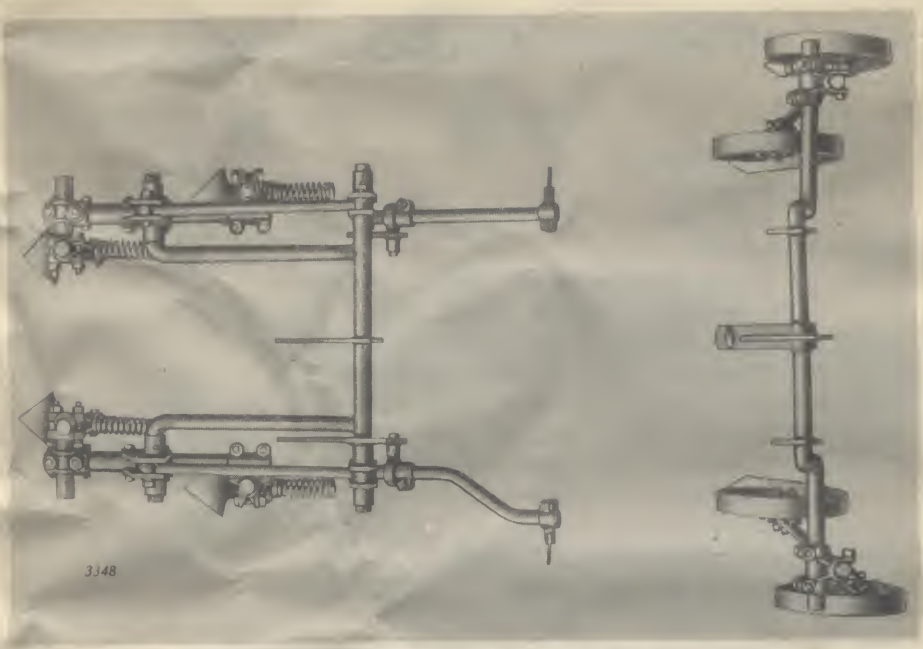


Figure 10—Overhead View, M16 Cultivator

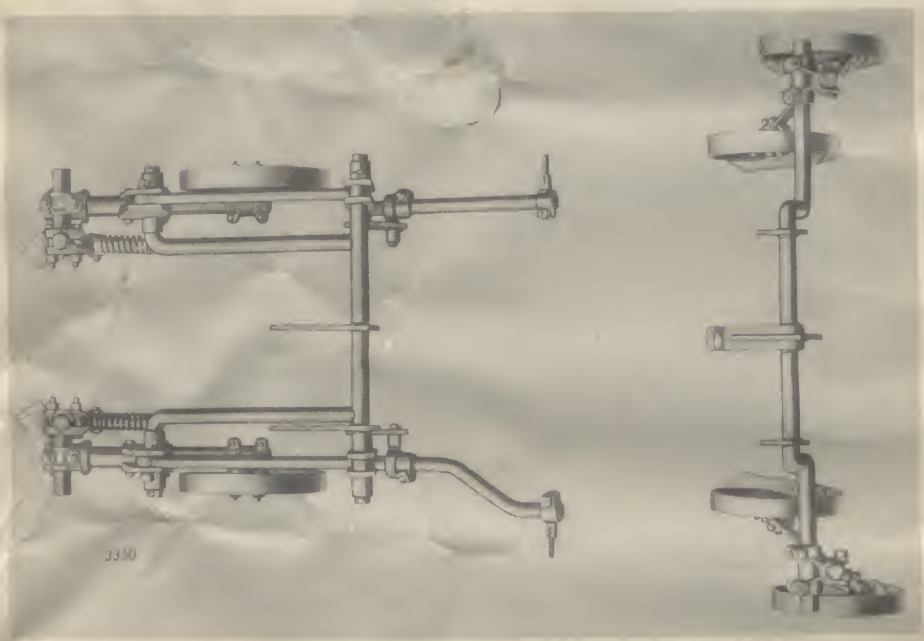


Figure 11—Overhead View, M18 Cultivator

REGULAR SHIPPING BUNDLES

Part No.	Description	M12	M14	M16	M18
SC534 A	Front Frame	1	1	1	1
SC535 A	Front Rig	2	2	2	2
SC490 A	Rear Rig	1	1	1	1
SC497 A	Shields (1 Pair)	1	1	1	1
SC495 A	Clamp and Crosshead Bundle (2 Crossheads) (2 Clamps)	1	..	1	..
SC106 A	Shank Bundle (2 Spring Trip Shanks)	2	..	2	1
SC121 A	Shank Bundle (2 Spring Trip Shanks)	1	..	..	..
SC284 A	Shovel Set (4/ Y786 A)	1	..	1	..
Y818 A	Sweep—10" General Purpose	2	..	..	..
SC496 A	Clamp and Crosshead Bundle (2 Crossheads) (2 Clamps)	..	1	..	1
SC101 A	Shank Bundle (4 Single Spring Teeth)	..	2	1	..
SC95 A	Stub Beam (2 Stub Beams for Rear)	..	1	1	1
SC265 A	Shovel Set (8/ Y722 A)	..	1	..	..
SC292 A	Shovel Set (4/ Y722 A)	..	..	1	..
SC102 A	Shank Bundle (6 Single Spring Teeth)	..	..	..	1
SC291 A	Shovel Set (6/ Y722 A)	..	..	..	1
SC499 A	Shovel Set (2/ Y794 A)	..	..	..	1

SPECIAL SHIPPING BUNDLES

SC99 A	Shank Bundle (4 Spring Trip Shanks, 1-1/8")	..	..	1	..
SC134 A	Stub Beam (2 Stub Beams)	..	1	1	1
SC278 A	Shovel Set (4/ Y474 A)	..	..	1	..

TO SET UP CULTIVATOR

GENERAL INSTRUCTIONS:

(A) First determine whether your cultivator is an M12, M14, M16 or M18. See Figures 8, 9, 10 or 11.

(B) Read all setting up instructions and carefully observe illustrations.

(C) Cut bundling wires and conveniently arrange parts.

(D) Lubricate all bearings and moving parts as you proceed so that they move freely.

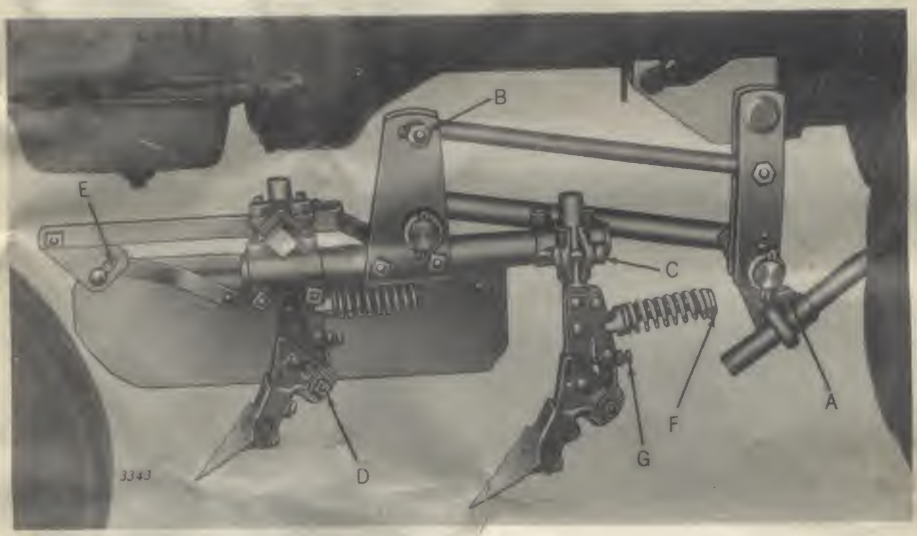


Figure 12—Front-Section

M12 CULTIVATOR

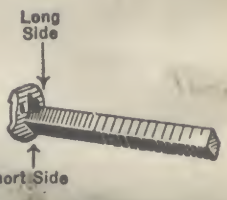


Figure 13—Crosshead

Place clamps and crossheads on front end of rig pipes, and clamps on rear end as shown at "A" and "B", Figure 12. **CAUTION: The clamp end of the crossheads are 3/4" longer on one side than on the other.** (See Figure 13.) The crosshead should ordinarily be installed in the clamp so that the longer side of clamp end is down, thus providing ample vertical adjustment to level shovels or sweeps. Insert short shanks in crossheads on front as at "C", Figure 12, and in clamps on rear as shown at "D", Figure 12. Tighten securely and attach shovels or sweeps "E", Figure 12.

Rear Rig.

Place long shanks in clamps on rear rig, tighten securely and attach shovel or sweeps.

M14 CULTIVATOR

Assemble front clamps and crossheads to front end of rig pipes, and clamps on rear as shown at "A" and "B", Figure 12. **CAUTION: The clamp end of the crossheads are 3/4" longer on one side than on the other.** (See Figure 13.) The crosshead should ordinarily be installed in the clamp so that the longer side of clamp end is down, thus providing ample vertical adjustment to level shovels or sweeps. Insert two single spring teeth to front crossheads and two to rear clamps. Tighten securely and attach shovels or sweeps.

Rear Rig.

Insert stub beams in clamps on rear rig as shown at "A", Figure 14. Attach spring teeth to stub beam clamps as shown at "B", Figure 14. Tighten securely and attach shovels or sweeps at "C", Figure 14.

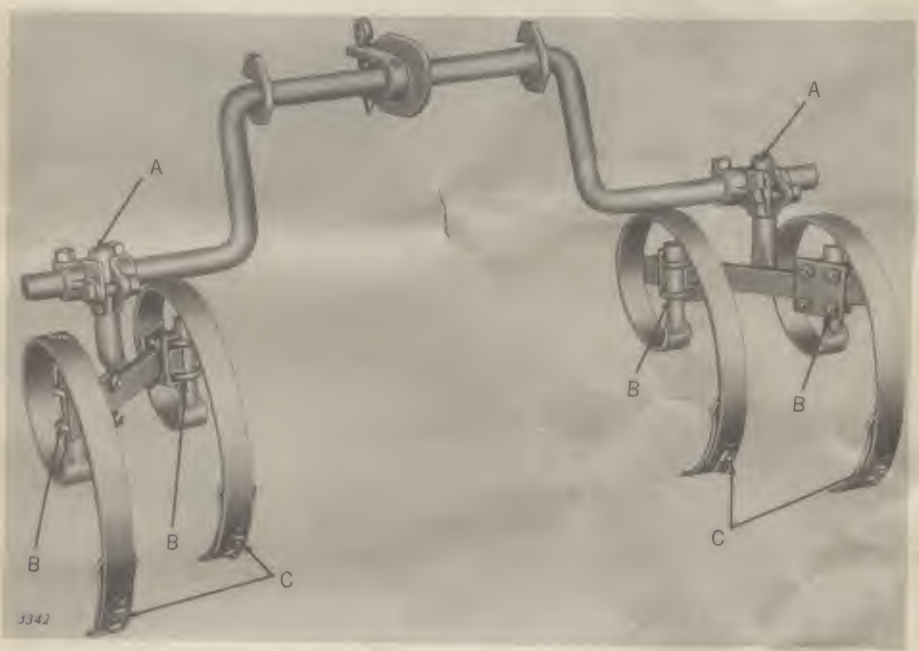


Figure 14—Rear Section

M16 CULTIVATOR

Assemble front rigs the same as for M12 Cultivator as shown in Figure 12.

Rear Rig.

Assemble spring teeth on rear rigs the same as for M14 Cultivator as shown in Figure 14.

M18 CULTIVATOR

Assemble front clamps and crossheads to front end of rig pipes and insert short shanks as shown at "A" and "C", Figure 12. **CAUTION: The clamp end of the crossheads are 3/4" longer on one side than on the other.** (**See Figure 13.**) The crosshead should ordinarily be installed in the clamp so that the longer side of clamp end is down, thus providing ample vertical adjustment to level shovels or sweeps. Attach clamps on rear end of rig pipes as shown at "B", Figure 12, and insert two single spring teeth in clamps. Tighten securely and attach shovels or sweeps.

Rear Rig.

Assemble spring teeth on rear rig the same as for M14 Cultivator as shown in Figure 14.

Shields.

When shields are used, attach to bolts in crossheads on front end of rig pipes as shown at "F", Figure 12.

PARTS LIST AND ILLUSTRATIONS

For identification purposes it is important to remember that your cultivator is a "John Deere No. M12, M14, M16, or M18 One-Row Tractor Cultivator."

Exploded Views.

From the exploded views of parts in the pages which follow it is easy to find any part or part number.

The exploded views also show the order of assembly of parts. If parts are assembled properly the cultivator will perform better. If wearing washers and other parts are in their proper place the parts will wear longer.

Reference Number.

Each part has been given a reference number which is used only as a key to find the part number, description and quantity used. *Do not use the reference numbers when ordering parts.*

Quantity.

If only one of each part is used, the quantity is not listed. If more than one of each part is used the quantity is listed with the description.

When Purchasing Parts.

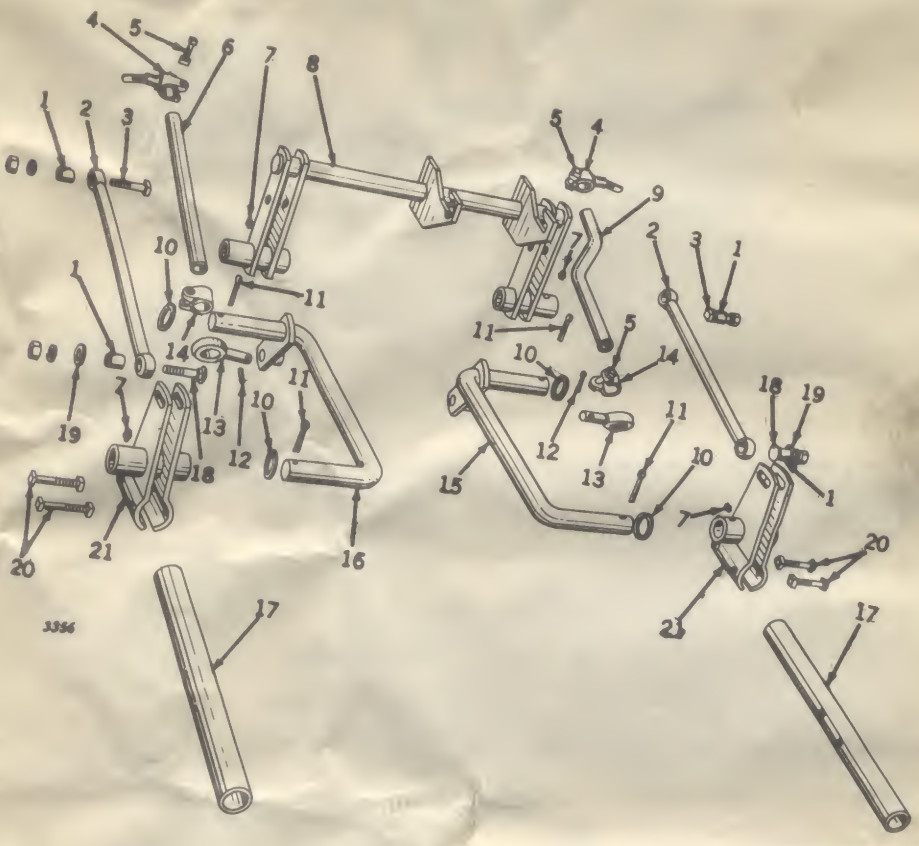
When purchasing parts, direct or by mail, or when telephoning orders to your John Deere dealer, give the following information:

(a) Give number of your cultivator (M12, M14, M16, or M18).
(b) Give part number, description, and quantity wanted.
(c) For bolts and hardware which have no number give description and sizes.

Symbols and Abbreviations.

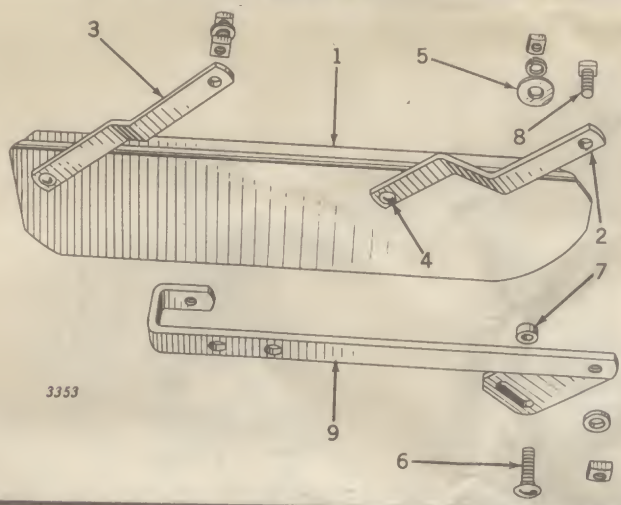
SHM—Square Head Machine	" —Inch
L. W.—Lock Washer	w/ —With
R.H. —Right-Hand	Thd.—Thread
L.H. —Left-Hand	Rd. —Round
Cge. —Carriage	O.H.—Oval Head
No. —Number	Cpt.—Complete
Hvy. —Heavy	Std. —Standard
Hex. —Hexagon	& —and

FRONT RIGS AND FRAME



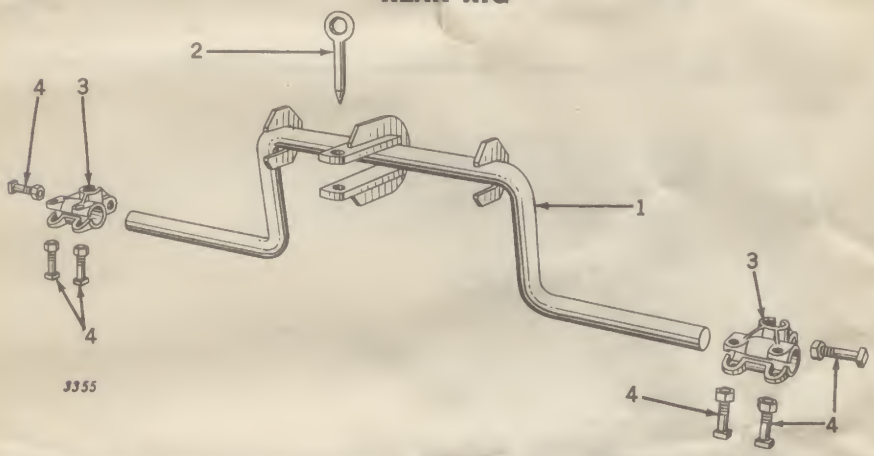
Key	Part No.	Description
1	27047 A	Bushing, Upper Rig Link (4 used)
2	27858 A	Link, Upper Rig (2 used)
3	BT 267 A	Bolt, SHM (5/8" x 2-1/2") with Heavy Hex. Nut and L. W. (2 used)
4	CA 2019 A	Collar, Adjusting, with Strap (2 used)
5	BT 812 A	Bolt, SHM (1/2" x 2-1/4") with Nut (4 used)
6	29088 A	Pipe, Lift, Front, R. H.
7	JD 7759	Fitting, Alemite (4 used)
8	CA 1979 A	Frame, Front Assembly
9	29089 A	Pipe, Lift, Front, L. H.
10	18258 A	Washer (1-9/16" x 2-1/16" x .060) (4 used)
11	.....	Pin, Cotter (5/16" x 2") (4 used)
12	.....	Pin, Cotter (1/4" x 1-1/2") (2 used)
13	F 570 A	Swivel, Lift Arm (2 used)
14	F 651 A	Collar, Clamp (2 used)
15	CA 1981 A	Link, Rig, Lower Assembly, R. H.
16	CA 1982 A	Link, Rig, Lower Assembly, L. H.
17	29087 A	Beam, Rig (2 used)
18	BT 393 A	Bolt, Cge. (5/8" x 2-1/2") with Nut and L. W. (2 used)
19	.....	Washer (11/16" x 1-1/2" No. 10) (2 used)
20	.....	Bolt, SHM (1/2" x 3") with Nut (4 used)
21	CA 1983 A	Coupling, Rig Assembly (2 used)

SHIELDS

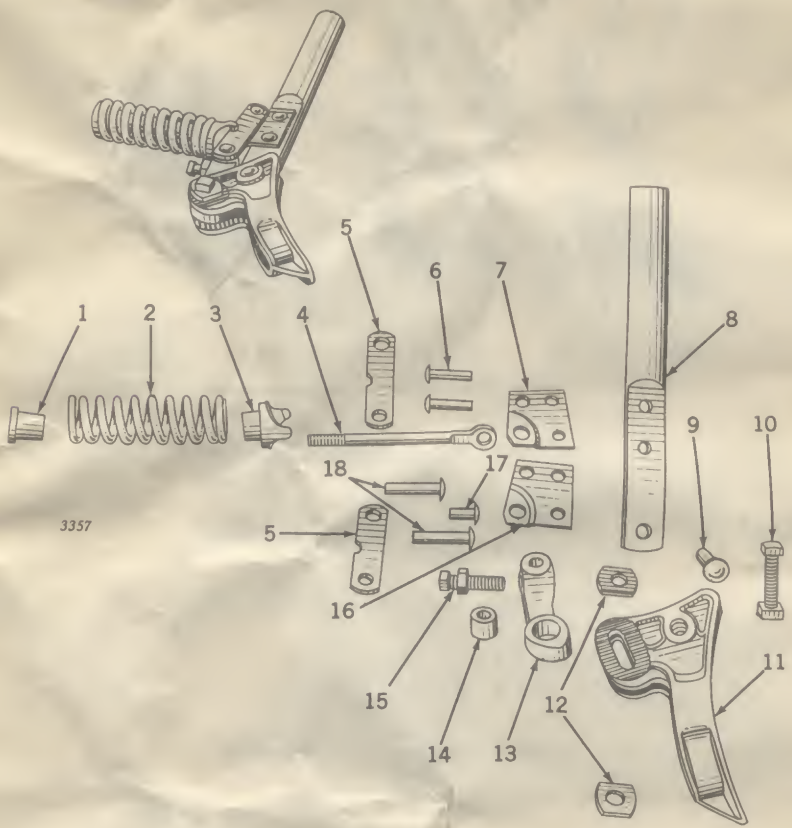


Key	Part No.	Description
1	29097 A	Shield, R. H.
	29098 A	Shield, L. H.
2	29095 A	Strap, Shield, Front
3	29096 A	Strap, Shield, Rear
4	RV 701 A	Rivet, Strap to Shield (2 used)
5	.....	Washer (1-1/4" x 9/16" No. 16)
6	.....	Bolt, Cge. (1/2" x 1-1/2") Shield to Plate
7	26763 A	Bushing on Bolt to Plate
8	.....	Bolt, SHM (1/2" x 1-1/4") Strap to Bracket
9	CA 1985 A	Bracket, Shield Assembly, R. H.
	CA 1986 A	Bracket, Shield Assembly, L. H.

REAR RIG

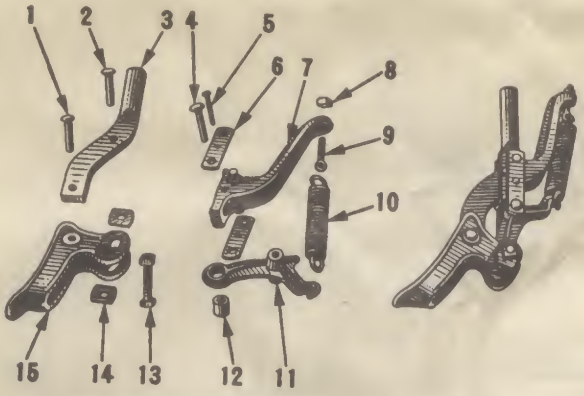


Key	Part No.	Description
1	CA 1984 A	Rig, Rear Assembly
2	29052 A	Pin, Hitch
3	E 966 A	Clamp, Shank (2 used)
4	.....	Bolt, SHM (5/8" x 2-1/2") with Hvy. Hex. Nut (6 used)



Key	Part No.	Description
1	E 771 A	Nut, Spring Plunger
2	19023 A	Spring, Trip
3	E 773 A	Plunger Spring Stop
4	19019 A	Plunger Rod, Spring Trip
5	24917 A	Strap, Spring Trip (2 used)
6	.....	Rivet (1-1/2" x 3/8" Oval Head) (2 used)
7	24916 A	Plate, L. H.
8	25367 A	Shank (1-3/8" Rd.—9-1/4" Long) Used in SC106A Shank Bundle
	25396 A	Shank (1-3/8" Rd.—13-1/4" Long) Used in SC121A Shank Bundle
9	.....	Rivet, Sleeve to Shank (1/2" x 1-7/8" OH)
10	BT 228 A	Bolt, SHM (7/16" x 2-1/4" Cut Thd. with BT229A Nut) (1/2" Special)
11	E 816 A	Sleeve, Shovel
12	15645 A	Washers, Corrugated (2 used)
13	E 772 A	Link, Connecting
14	H 204 A	Bushing in Trip Link
15	.....	Screw, Set (1/2" x 1-7/8" No. 13) Flat Point with (1/2") Hex. Jam Nut (5/16" Thick)
16	24915 A	Plate, R. H.
17	RV 775 A	Rivet (7/16" x 7/8" Oval Special)
18	RV 731 A	Rivet (7/16" x 1-7/8" Oval Special) (2 used)

SC99A SHANK

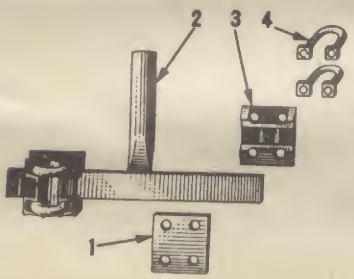


Key	Part No.	Description
1	RV 671 A	Rivet (7/16" x 1-5/8" OH)
2	RV 679 A	Rivet (7/16" x 1-1/2" OH)
3	21883 A	Shank
4	RV 680 A	Rivet (7/16" x 2-1/2" OH)
5	RV 683 A	Rivet (1/4" x 2-3/8" OH)
6	15635 A	Strap (2 used)
7	E 602 A	Post, Spring
8	BT 63 A	Nut (3/8" Concave)
9	15720 A	Eyebolt
10	15718 A	Spring
11	E 603 A	Link, Connecting
12	H 204 A	Bushing, in E603A
13	.....	Bolt, SHM (7/16" x 2-1/4") Cut Thread
14	15645 A	Washer, Corrugated (2 used)
15	E 976 A	Sleeve

SC101A AND SC102A SHANK

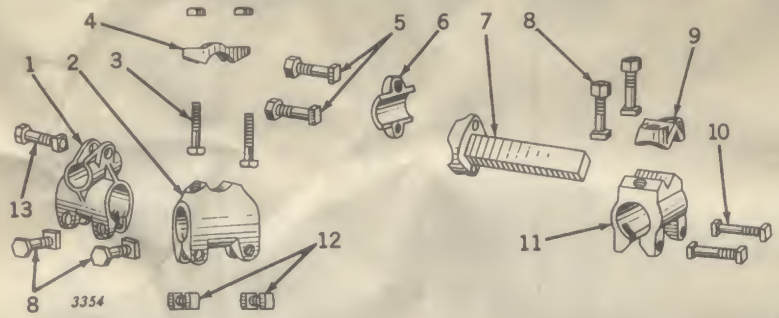
Key	Part No.	Description	SC 101A	SC 102A
1	16035 A	Tooth Spring.....	4	6

SC95A STUB BEAM



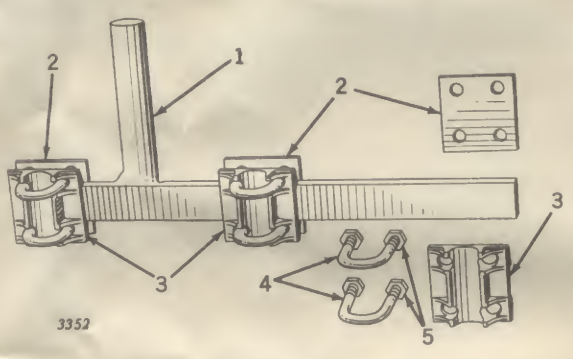
Key	Part No.	Description
1	16254 A	Plate, Shank Holder (2 used)
2	CA 127 A	Beam, Stub
3	E 636 A	Holder, Shank (2 used)
4	22085 A	Clip, Shank (4 used)

SC495A AND SC496A CLAMP AND CROSSHEADS



Key	Part No.	Description	SC495A Cross-Head	SC496A Cross-Head
1	E 899 A	Clamp, Shank	1	..
2	H 369 A	Clamp, Shank	..	1
3	.....	Bolt, SHM (1/2" x 2-1/4") with Nut	..	2
4	H 370 A	Cap for H369A	..	1
5	BT 457 A	Bolt, SHM (5/8" x 3-1/4") with Hex. American Std. Hvy. Nut	2	2
6	B 657 A	Cap for Crossarm	1	1
7	21022 A	Crossarm	1	1
8	BT 267 A	Bolt, SHM (5/8" x 2-1/2") with Hex. American Std. Hvy. Nut	5	2
9	F 580 A	Cap, Cross Arm Clamp	1	1
10	.....	Bolt, SHM (1/2" x 2-3/4")	2	2
11	H 373 A	Clamp, Cross Arm	1	1
12	.....	Bolt, SHM (1/2" x 2-3/4")	..	2

SC134A STUB BEAM



Key	Part No.	Description
1	CA 274 A	Beam, Stub, R. H.
	CA 275 A	Beam, Stub, L. H.
2	16254 A (3 used)	Plate, Shank Holder
3	E 636 A	Holder, Shank (3 used)
4	22085 A	Clip (6 used)
5	.....	Nuts (7/16") (12 used)

NUMERICAL INDEX

Farm Accidents Can Be Prevented
with Your Help

NO accident prevention program can be successful without the whole-hearted cooperation of the person who is directly responsible for the operation of equipment.

To read accident reports from all over the Country is to be convinced that a large number of accidents can be prevented only by the operator anticipating the result before the accident is caused and doing something about it. No power-driven equipment, whether it be transportation or processing, whether it be on the highway, in the harvest field, or in the industrial plant, can be safer than the man who is at the controls. If farm accidents are to be prevented—and they can be prevented—it will be done by the operators who accept a full measure of their responsibility.

It is true that the designer, the manufacturer, the safety engineer can help; and they will help, but their combined efforts can be wiped out by a single careless act of the operator.

It is said that "*the best kind of a safety device is a careful operator.*" We ask you to be that kind of an operator.

NATIONAL SAFETY COUNCIL

JOHN DEERE
QUALITY EQUIPMENT
for your farming operations

TRACTORS: Standard tread, general purpose, and orchard in sizes and types for every farm, crop, and purpose.

PLOWS: All sizes and types, moldboard and disk, including integral moldboard and disk types for John Deere general purpose tractors. Middlebreakers. Disk tillers in all sizes. Plow-sole fertilizer attachment for plows.

LISTERS: One-, two-, and three-row for cotton, corn, and other crops. Integral middlebreakers and bedders and bedder planters for John Deere general purpose tractors.

HARROWS: Single- and double-action disk types. Offset disk harrows for orchard, vineyard, and cover-crop work. Spike-tooth harrows, spring-tooth harrows, and spring-tooth weed destroyers. Stalk cutters.

GRAIN DRILLS: Tractor- and horse-drawn grain drills in a size and type for every seeding job. Plain drills, fertilizer-grain drills, press drills, plow press drills, deep-furrow drills, and grass seed drills available. Adjustable-gate fluted force-feeds or double-run feeds. Choice of furrow openers. Fertilizer attachments available. Lime and fertilizer distributors.

PLANTERS: One-, two-, and four-row for corn, cotton, peanuts, and other crops. Multi-row planters for beets, beans, and other narrow-row crops with or without fertilizer attachment. Planting and fertilizing attachments for cultivators.

POTATO MACHINERY: One- and two-row planters, with or without fertilizer attachment. Two-row tractor-drive diggers. One-row diggers—ground- and tractor-drive. Hoe and hilling attachment.

CULTIVATORS: One-, two-, four-, and six-row for flat-planted crops; one-, two-, and four-row for listed crops. Field and orchard cultivators with stiff or spring teeth. Alfalfa cultivators. Beet and bean cultivators. Rotary hoes. Rod weeders.

DUSTERS: For cotton, vegetables, orchards, and groves.

HAY MACHINERY: Enclosed-gear horse mowers, tractor-drawn mower, power-driven mowers. Side-delivery rakes, hay loaders, sweep rakes, sulky rakes. Power baler; automatic pick-up baler, hay choppers.

HARVESTING MACHINERY: Combines and threshers. Grain binders, corn binders, rice binders for horses or tractor. Windrowers. Power-driven one- and two-row corn pickers. Ensilage harvesters; blowers. Beet lifters. Beet harvester. Beet loader. Bean harvesters. Peanut pullers. Cotton harvesters.

GRAIN ELEVATORS: Portable, for ear corn and small grains, portable type for small grains only. Trench silo elevator. Grain mover.

HAMMER AND FEED MILLS: Two types, five sizes to fit every need; also shellers for hand and power use.

MANURE SPREADERS: Horse-drawn and tractor-drawn. Also lime-spreading attachment. Manure loader.

FARM WAGONS: Rubber-tired gears for all-around hauling.

MISCELLANEOUS: Deep tillage equipment, including panbreakers, subsoilers, and chisel cultivators. Land levelers. Tire pumps.

JOHN DEERE
GAVE TO THE WORLD THE STEEL PLOW
IN 1837