



Native Grass Cup Enhancement Kit Native Grass Drills

Used with:

- Pre-2007 605NT, 3P605NT Native Grass
- Pre-2007 705, 706, 1005, 1006 Native Grass
- Pre-2007 3PNG12, 3PNG15, 2SNG24, 2SNG30, NG12 Grass Seeder

General Information

These instructions explain how to install the Native Grass Cup Enhancement Kit. This kit enhances your Great Plains Native Grass Drill to a hi-rate native grass seed sprocket. This kit fits most Great Plains Native Grass Drills. If your drill is not listed above, have your dealer contact the factory, as a kit may be available.

If your drill is a Series II, you already have this enhancement.

These instructions apply to:

202-597A Native Grass Cup Enhancement Kit
(order one kit per row)

For a complete Series II enhancement, separately order one of the agitator kits below, and two decals:

202-600A 6' NG SERIES II AGITATOR KIT
 202-601A 706-7 1/2" NG SERIES II AGT.
 202-602A 1006-7 1/2" NG SERIES II AGT.
 202-603A NG-12 SERIES II AGITATOR
 202-604A 12' 7 1/2" NG SERIES II AGT.
 202-605A 12' 10" NG SERIES II AGT.
 202-606A 15' 7 1/2" NG SERIES II AGT.
 202-607A 15' 10" NG SERIES II AGT.

838-986C DECAL NATIVE GRASS SERIES II

If installing a complete upgrade to Series II, install this kit (the cup enhancement) before installing the agitators.

Before You Start

Each kit converts one row. You need a kit for each row of your machine. Count rows and kits.

For each kit, inventory the contents per the "Parts List" on page 3.

Determine whether your machine is an older model without a removable tray at the bottom of the seed box. The instructions vary depending on machine type.

If necessary, move the drill to a dry well-lighted location suitable for disassembly.

Park and secure the drill. Secure the tractor if left connected.

Disconnect any hydraulic and electrical power to the drill.

Have the following tools at hand:

- Parts Manual, or Operator/Part Manual for your drill. If you do not have one, a copy can be obtained from your dealer, or, in most cases, on-line in the Support section of the Great Plains web site: www.greatplainsmfg.com
- $\frac{3}{16}$ in hex driver with a reach of at least 6in through a $1\frac{3}{4}$ in access hole (the hose port of the cup)
- Basic hand tools

Installation

Instructions for All Models

1. Clean out any seed in box.
2. Disconnect seed hoses from the meter cups.
3. Remove final drive sprockets at the Native Grass (NG) seed box and remove drive chains at the box.
4. Access to the tray and feeder cups may require additional removal of walkboards and small seed boxes.

Fixed-Tray Drill Disassembly

On these models, the upgrade is easiest if the entire Native Grass seed box is removed.

5. Remove the Native Grass seed box.

Removable-Tray Drill Disassembly

On these models, the upgrade is easiest if just the seed tray is removed.

5. On the end of the Native Grass feeder cup shaft with the drive sprocket, remove the screws from the cast bearing housing, drop that end of the shaft out of its slot, and pull the assembly out of the hole at the far end of the shaft, removing the tray from the seed box.

Instructions for All Models

Remove existing feeder cups and sprockets.

Refer to Figure 1 (which depicts a fixed-tray seed box, but the disassembly process is identical for removable-tray)

6. Remove the 1/4-20 screws, nuts and washers ③ that attach the NG feeder cups ① to the tray. Save the screws, washers and nuts. Save the NG feeder cups.
7. At each NG feeder cup sprocket ④, insert the 6in hex wrench, and loosen the sprocket set screw ② two full turns.
8. Remove the 10-24 screws, nuts and washers ⑤ that attach the existing wheel covers tray. Save the screws, washers and nuts. Save the wheel cover plates. The existing gasket is not re-used.
9. Remove the set screw from each feeder sprocket. Save the set screw.
10. Orient the box or tray so that the existing sprockets ④ will fall away safely, and slide the drive shaft out of the far end bearing, then each feeder cup sprocket. The sprockets are not re-used.

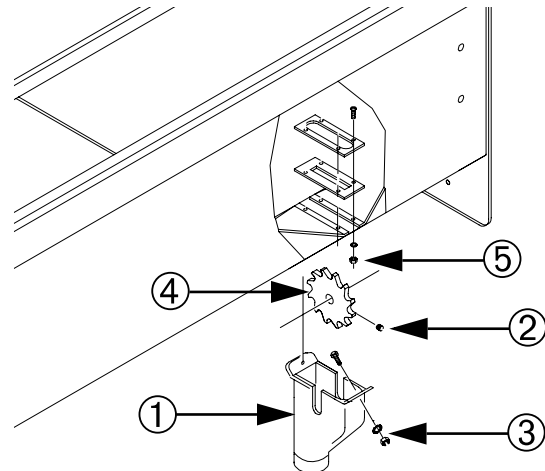


Figure 1
Cup Disassembly

25122

Install new sprockets and feeder cups

Refer to Figure 2 (for general arrangement only)

11. Re-install the old wheel cover plates ① with the new gaskets ②, using the old screws, washers and nuts. Align the inside edges of plate and gasket to be parallel with the tray slot (not shown). Tighten screws.
12. Slide the new sprockets ③ onto the drive shaft with the teeth facing down on the front ⑥ side of the seed box or tray.
13. Insert each set screw saved from the old sprockets. Adjust each set screw so that it is 2 full turns back off from tight.
14. Re-mount the drive shaft (not shown), sliding each feeder cup sprocket ③ so that it occupies a tray slot. Do not tighten set screws at this time. Double-check that each sprocket is correctly oriented.
15. Clean each feeder cup ④ in the area around the drive slot. This to assure solid adhesion of the side gaskets ⑤. Do not install the gaskets yet.
16. Re-mount the existing feeder cups ④, using the existing 1/4-20 screws, nuts and washers. Use any play in the positioning to align the cup so that the drive shaft is centered in the cup's drive slots ⑥. Tighten screws.
17. Rotate each new feeder sprocket ③ so its set screw is facing down. Center it in the wheel cover slot ① and tighten the set screw.

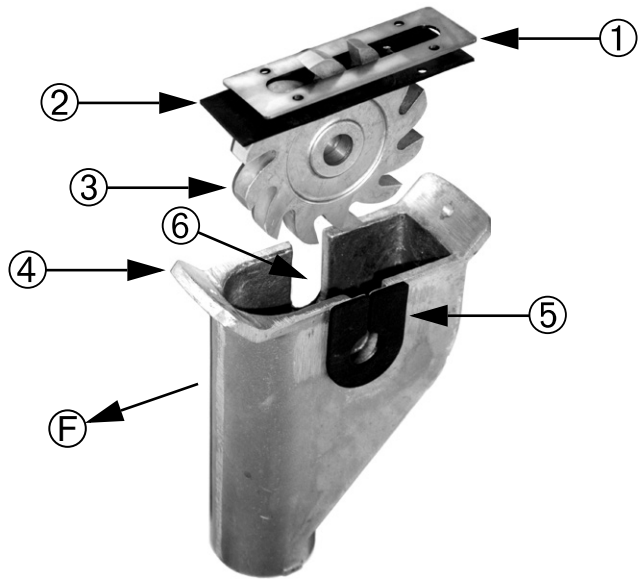


Figure 2
Cup Assembly

25123

18. Peel the release paper off each side gasket ⑤, and apply it so the hole is centered on the drive shaft, and slot gaps are completely covered. Apply two gaskets to each cup (one per side). You may want to practice positioning with a gasket that still has the release paper attached.
19. Re-install the seed box or tray. Reinstall the drive train, and any drill components removed earlier. Re-connect seed hoses.

Parts List

202-597A Native Grass Cup Enhancement Kit

Your kit includes:

Qty.	Part No.	Part Description
1	202-598M	This manual
1	812-346C	NG CUP HI RATE SPROCKET
1	816-539C	NG METER GASKET WIDE
2	816-540C	NATIVE GRASS CUP GASKET

Seed Rate Charts

Upgrading the Native Grass feeder sprocket substantially increases the seed rate for a given prior setting. After installing this kit, cease using the Native Grass rate charts previously provided for or with your drill. Use the new charts in this document.

Series II 605NT Native Grass Box (cup revolutions per acre)

Driven Sprockets		14	15	16	17	18	19	20	21	22	23
Drive Type	1	137.18	128.04	120.03	112.97	106.70	101.08	96.03	91.45	87.30	83.50
	2	281.98	263.19	246.74	232.22	219.32	207.78	197.39	187.99	179.44	171.64
	3	422.98	394.78	370.14	348.33	328.98	311.67	296.08	281.98	269.17	257.46
	4	690.01	644.01	603.76	568.24	536.67	508.43	483.01	460.01	439.10	420.01

Table 1

Series II 3P605NT Native Grass Box (cup revolutions per acre)

Driven Sprockets		14	15	16	17	18	19	20	21	22	23
Drive Type	1	133.99	125.06	117.24	110.35	104.22	98.73	93.80	89.33	85.27	81.56
	2	275.43	257.07	385.60	226.83	214.22	202.95	192.80	183.62	175.27	167.65
	3	413.15	385.60	361.50	340.24	321.34	304.42	289.20	275.43	262.91	251.48
	4	673.97	629.04	340.24	555.04	524.20	496.61	471.78	449.32	428.89	410.24

Table 2

Series II 605NT/3P605NT Brome Grass (pounds per acre)

Driven Sprockets		23	22	21	20	19	18	17	16	15	14	
7 ¹ / ₂ in Spacing	Drive Type	1	12.6	13.2	13.8	14.5	15.2	16.1	17.0	18.1	19.3	20.7
		2	25.9	27.1	28.3	29.8	31.3	33.1	35.0	37.2	39.7	42.5
		3	38.8	40.6	42.5	44.6	47.0	49.6	52.5	55.8	59.5	63.8
		4	63.3	66.2	69.3	72.8	76.6	80.9	85.6	91.0	97.0	104.0

Table 3

Series II 706 - 7 1/2in Native Grass Box (cup revolutions per acre)

Driven Sprockets		15	16	17	18	19	20	21	22	23	24
Drive Type	1	115.03	107.84	101.49	95.86	90.81	86.27	82.16	78.43	75.02	71.89
	2	236.44	221.67	208.63	197.04	186.67	177.33	168.89	161.21	154.20	147.78
	3	354.67	332.50	312.94	295.56	280.00	266.00	253.33	241.82	231.30	221.67
	4	578.58	542.41	510.51	482.15	456.77	433.93	413.27	394.48	377.33	361.61

Table 4**Series II 1006 - 7 1/2in Native Grass Box** (cup revolutions per acre)

Driven Sprockets		15	16	17	18	19	20	21	22	23	24
Drive Type	1	80.04	75.03	70.62	66.70	63.19	60.03	57.17	54.57	52.20	50.02
	2	164.52	154.24	145.16	137.10	129.88	123.39	117.51	112.17	107.29	102.82
	3	246.78	231.35	217.74	205.65	194.82	185.08	176.27	168.26	160.94	154.24
	4	402.57	377.41	355.21	335.48	317.82	301.93	287.55	274.48	262.55	251.61

Table 5**Series II 1006 - Brome Grass** (pounds per acre)

Driven Sprockets		15	16	17	18	19	20	21	22	23	24	
7" Spacing	Drive Type	1	9.2	8.6	8.1	7.7	7.3	6.9	6.6	6.3	6.0	5.8
		2	18.9	17.7	16.7	15.8	14.9	14.2	13.5	12.9	12.3	11.8
		3	28.4	26.6	25.0	23.6	22.4	21.3	20.3	19.3	18.5	17.7
		4	46.3	43.4	40.8	38.5	36.5	34.7	33.0	.1.5	30.2	28.9
7.5" Spacing	Drive Type	1	8.6	8.1	7.6	7.2	6.8	6.4	6.1	5.9	5.6	5.4
		2	17.7	16.5	15.6	14.7	13.9	13.2	12.6	12.0	11.5	11.0
		3	26.5	24.8	23.4	22.1	20.9	19.9	18.9	18.1	17.3	16.5
		4	43.2	40.5	38.1	36.0	34.1	32.4	30.8	29.4	28.2	27.0
8" Spacing	Drive Type	1	8.1	7.5	7.1	6.7	6.4	6.0	5.8	5.5	5.3	5.0
		2	16.5	15.5	14.6	13.8	13.1	12.4	11.8	11.3	10.8	10.3
		3	24.8	23.3	21.9	20.7	19.6	18.6	17.7	16.9	16.2	15.5
		4	40.5	37.9	35.7	33.7	32.0	30.4	28.9	27.6	26.4	25.3

Table 6

Series II 2SNG24 7-1/2in

Drive Type	Native Grass Box Sprocket Configuration								
	Driver	15	15	15	19	19	35	30	30
	Driven	30	24	19	19	15	24	19	15
	Seed Cup Revolutions per Acre								
1		75.72	94.65	119.56	151.44	191.83	119.89	239.12	302.88
1A		155.43	194.28	245.41	310.86	393.75	453.33	490.82	621.71
2		24.73	30.91	39.04	49.45	62.64	72.12	78.08	98.90
2A		50.75	63.44	80.13	101.50	128.57	148.03	160.27	203.01

Table 7**Series II 2SNG30 7-1/2in**

Drive Type	Native Grass Box Sprocket Configuration								
	Driver	15	15	15	19	19	35	30	30
	Driven	30	24	19	19	15	24	19	15
	Seed Cup Revolutions per Acre								
1		61.25	76.56	96.71	122.50	155.17	96.98	193.42	245.00
1A		125.72	157.15	198.51	251.45	318.50	366.69	397.02	502.89
2		20.00	25.00	31.58	40.00	50.67	58.33	63.16	80.00
2A		41.05	51.32	64.82	82.11	104.00	119.74	129.64	164.21

Table 8**Series II 3PNG12 7-1/2in**

Drive Type	Native Grass Box Sprocket Configuration								
	Driver	15	15	15	19	19	35	30	30
	Driven	30	24	19	19	15	24	19	15
	Seed Cup Revolutions per Acre								
1		151.44	189.30	239.12	302.88	383.65	239.78	478.24	605.77
1A		310.86	388.57	490.82	621.71	787.50	906.66	981.65	1243.42
2		49.45	61.81	78.08	98.90	125.27	144.23	156.16	197.80
2A		101.50	126.88	160.27	203.01	257.14	296.05	320.54	406.02

Table 9

Series II 3PNG15 7-1/2in

Drive Type	Native Grass Box Sprocket Configuration								
	Driver	15	15	15	19	19	35	30	30
	Driven	30	24	19	19	15	24	19	15
	Seed Cup Revolutions per Acre								
1		122.50	153.13	193.42	245.00	310.33	193.96	386.84	490.00
1A		251.45	314.31	397.02	502.89	637.00	733.39	794.04	1005.79
2		40.00	50.00	63.16	80.00	101.33	116.67	126.32	160.00
2A		82.11	102.63	129.64	164.21	208.00	239.47	259.28	328.42

Table 10**Series II NG12**

Data was not available at first printing of this manual.
Check the Great Plains web site for an updated edition.

Great Plains Manufacturing, Inc.

Corporate Office: PO Box 5060
Salina, KS 67402-5060 USA