

#### Welcome to the Podium Club!

The information found at www.antiquetractorpullguide.com is like no other information out there. The tips, tricks and secrets of successful tractor pulling are designed to improve your performance at the next tractor pull, while having more fun at the same time.

## **Massey Harris Mustang Upgrades**

The last time we saw the Mustang, it had some scabbed on sheet metal, but did perform well at the Quincy Spring Pull. At the Benton County Fair Spring Pull, it again performed well, but an ongoing problem was apparent – cooling. The Honda Civic radiator was a good fit for the tractor, but one thing became very apparent when the tractor was running under heavy load – coolant leaking out of the overflow tube and onto the ground during the heavy load of a hook. The original radiator had a non-pressurized radiator cap, which means the water pump seal is also designed that way. The Civic radiator 13lb pressure cap was modified by removing the rubber seal and spring, allowing a zero pressure system. This keeps coolant from leaking through the water pump seal, but allows hot coolant to be lost by the system.

The engine wasn't running hot according to the temp gauge, but after a couple of hooks, the coolant level in the radiator was noticeably low. So what could be done?

Time for an upgrade. Shown below are the two row radiator that was originally installed in the Mustang (left) and a new 3 row high capacity radiator that is replacing it (right).





## **Massey Harris Mustang Upgrades (cont)**

Higher quality radiators have more rows of cooling tubes in them. This is done to increase the rate of heat transfer as air flows through the fins of the radiator. This new high capacity Civic Radiator boasts 35% better cooling over the old one and is almost 3/4" thicker which allows more coolant to be used in the system (see photo below).



Now, this may be helpful in overall cooling, but the system is still going to be safeguarded against coolant loss. To do this, a simple coolant overflow tank is installed. That way if there is any loss during operation, it at least won't spill out onto the ground.

The mounting points for the new radiator were the same for the old, so the swap was easy. The radiator overflow tube is connected to the bottom of the surge tank (overflow tank). The surge tank (Ebay ~\$20) is mounted near the coil on top of the engine. I hope it doesn't get hot enough to melt it!





# **Massey Harris Mustang Upgrades (cont)**

With the sheet metal finally finished, the installation was easy since it had been pre-fitted before painting. The crowning moment was when the decals were placed. Presto! A finished product.

The final detail before the next hook will be the fabrication of a front weight bracket extension. This will move the weights ahead to just within the 11ft rule. Details of this fabrication as a removable weight bracket will be featured in a future

newsletter.

The Specs:

1953 MH Mustang (23)

Engine: 3.4975" Bore 4.375" Stroke

168 CID

CR - 9.8:1

Berry Cam

Pertronix Ignition

HP: 38hp @1500rpm

45-50hp@ 2500rpm

Weight: 2560lbs

without weights or driver

Rear tires:

14.9-28 Goodyear **Traction Torque** 

6 Ply

Front tires: 4.00 x 15

Hmm, can't see that coolant surge tank

at all.





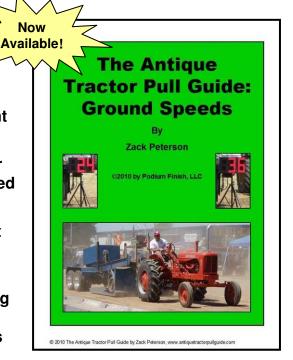




# The Antique Tractor Pull Guide: Ground Speeds

#### What's inside:

- Ground speeds for most makes and models featured in The Antique Tractor Pull Guide.
- Ground speeds shown with respect to different RPM and different tire sizes.
- Ground speeds shown in every gear from near idle to full RPM, including USAP/NATPA allowed RPM's.
- How to figure ground speeds for any tractor at any RPM, allowing for cut tires & lower tire pressures.
- Ground speeds for gearing variations including creeper gears, ring & pinion changes, M&W 9
   Speed transmissions, Sherman transmissions and more!









## Francis Garceau and his Cockshutt "Super" 40

Francis Garceau grew up on a farm in North Dakota, just two miles from the Canadian border. The nearest tractor dealership was 16mi north and sold Cockshutt equipment. On the farm they had a Cockshutt 50 and used a Cockshutt combine for harvesting. Long after leaving the farm and pursuing another career, Francis was reintroduced to Cockshutt tractors while visiting family in North Dakota in the late 1990s. He hauled home a Cockshutt 30 and thus started a new era of tractor collecting and tractor pulling.

Since then, Francis' collection of Cockshutt tractors has grown to a dozen at his home in Jefferson, Oregon. They range from the early "round nosed" style, to the later 500 series, with his favorite being the model 40. When he and his wife started tractor pulling, he pulled a Cockshutt 40 Diesel and she pulled (and still does) a Cockshutt 30. In the early tractors, Cockshutt used smooth running Buda engines. These engines were a modern, higher compression, overhead valve, automotive style engine, that gained power through RPM. Most models were governed at faster speeds than other tractor brands. Francis and Cecilia pulled their "His & Hers" Cockshutts for several years and then Francis started eyeing a bigger prize.

A few years ago he came across an Allis Chalmers combine that had a G262 Buda engine in it. This engine is similar to the stock G230 found in a Cockshutt 40, but is much more powerful. Below are the specifications for these two engines. The G262 Buda was also used in the Allis Chalmers D19 tractor where it was tested at Nebraska.

Buda B230	Buda G262
-----------	-----------

Bore: 3.4375" Bore: 3.5625"
Stroke: 4.125" Stroke: 4.375"

Number of cylinders: 6 Number of cylinders: 6

Displacement: 230 CID Displacement: 262 CID

Compression Ratio: 6.2:1 Compression Ratio: 8:1

Rated RPM: 1650 Rated RPM: 2000

Rated HP: 43.3hp\* Rated HP: 71.5hp^

\*Belt Hp as tested at Nebraska Test #442 Cockshutt 40

^PTO Hp as tested at Nebraska Test #810 Allis Chalmers

D19 Gas



## Francis Garceau and his Cockshutt "Super" 40 (cont)

Without surprise, the G262 Buda that Francis had located was in very good condition. He cleaned it up and had it running shortly after he got it home. Then, without any internal engine work, he fitted into one of his Cockshutt 40 tractors, forming what he calls his "Super 40". This tractor debuted in 2009.



Francis on his "Super 40" at the Strawberry Festival in Lebanon, OR 2009

See these tractors in action in the video link at www.antiquetractorpullguide.com

Cecilia Garceau on her Cockshutt 30





## Francis Garceau and his Cockshutt "Super" 40 (cont)

The fit of the G262 engine into the Cockshutt 40 was fairly simple, Francis said, with the front engine mount being the trickiest part. After pulling for most of the first season with this tractor on 13.6-38 tires, Francis found a good used set of 16.9-38 Firestone All Traction Field & Road tires. He widened the original rims himself by welding in a steel ring. This new set of tires has proven successful on the track many times, as he has won numerous trophies since.



The same tractor, only now with 16.9-38, perfectly worn tires

Hitch setup – simple yet effective.

Engine tag, right side of block









## Francis Garceau and his Cockshutt "Super" 40 (cont)

How well has he done? In the combine application, this engine is rated for 2200-2400rpm. Francis has it set to turn 2400-2500rpm on the track, which means he likely has 80+hp at that rpm. In 2<sup>nd</sup> gear, the tractor is most effective on hard tracks and can easily carry 4-5mph. For soft tracks, he is able to use 3<sup>rd</sup> gear for 6mph classes. Below is a chart similar to what's found in the Ground Speeds book that verify his speeds.

Tire Size ↓	RPM → Gear ↓	800	700	800	go	900	700	200	1300	1400	1500	180	1800	2000	2500	2400	1500	200
	1st	0.6	0.7	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.6	1.7	1.9	2.1	2.3	2.5	2.6	2.7
	2nd	1.1	1.2	1.4	1.6	1.8	1.9	2.1	2.3	2.5	2.6	2.9	3.2	3.5	3.9	4.2	4.4	4.6
16.9-38	3rd	1.4	1.7	1.9	2.1	2.4	2.6	2.9	3.1	3.3	3.6	3.9	4.3	4.8	5.3	5.7	6.0	6.2
10.9-30	4th	2.0	2.4	2.7	3.0	3.4	3.7	4.1	4.4	4.7	5.1	5.6	6.1	6.8	7.4	8.1	8.4	8.8
	5th	2.4	2.8	3.2	3.6	4.0	4.4	4.9	5.3	5.7	6.1	6.7	7.3	8.1	8.9	9.7	10.1	10.5
	6th	4.6	5.4	6.2	7.0	7.7	8.5	9.3	10.1	10.8	11.6	12.8	13.9	15.5	17.0	18.6	19.3	20.1

His results for the Benton County Fair Spring Tractor Pull speak volumes:

4500-5000 6mp	oh	Distance	Weight	Place	Max mph		
Francis Garceau	Cockshutt 40	187.09	5000	1	5.9		
Bob Schwab	Cockshutt 40	177.34	5000	2	4.6		
Max Franklin	Oliver 70	170.53	5000	3	4.4		
Fred Pfister	Oliver 88	167.83	5000	4	3.6		
5000-5500 6mp	oh	Distance Weight Pla					
Francis Garceau	Cockshutt 40	190.23	5500	1	6		
Brooks Pfister	Farmall 460	183.43	5500	2	5.8		
Bob Schwab	Cockshutt 40	179. 94	5500	3	5		
5500-6000 6mp	oh	Distance	Weight	Place	Max mph		
Francis Garceau	Cockshutt 40	177.11	6000	1	5.9		
Brooks Pfister	Farmall 460	176.23	6000	2	5.7		
Tom Peterson	Minneapolis Moline UBU	175.11	6000	3	3.6		
Zack Peterson	Case 411	172.8	6000	4	2.9		
Bob Schwab	Cockshutt 40	171.14	6000	5	3.2		
Jake Winn	Minneapolis Moline UTU	170.2	6000	6	3		



## Francis Garceau and his Cockshutt "Super" 40 (cont)

And finally, to top it all off, he won the 6250# KOH 4mph class, where the only prize was bragging rights!

6250 KOH 4mp	h	Distance	Weight	Place	Max mph
Francis Garceau	Cockshutt 40	156.2	6250	1	3.8
Jake Winn	Minneapolis Moline UTU	145.46	6250	2	3.5
Tom Peterson	Minneapolis Moline UBU	141.84	6250	3	3.7
Bob Schwab	Cockshutt 40	141.34	6250	4	3.1
Zack Peterson	Case 411	140.56	6250	5	3
Mark Parker	Minneapolis Moline UTU	136.21	6250	6	3.1

His competition was pretty tough, with modified MM's, another high revving Cockshutt 40, a Farmall 460 with C301 engine and a lowly Case 400 ©.

Francis Garceau is a fountain of knowledge about Cockshutt tractors and tractor pulling. He is a great friend and a fantastic person to chat with about tractors. He is also enthusiastic at the pulls, very welcoming and supportive to other pullers. He truly is one of the folks who lives the fundamental values of fun and camaraderie at every pull.

The next pages show some fascinating information about Buda engines and the Cockshutt 40-Buda G262 conversion. A big thanks to Francis Garceau for sharing this information.

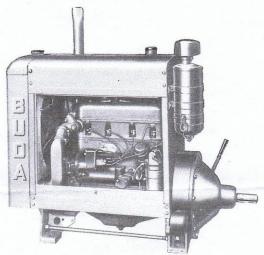
To sum up, a Cockshutt 40 can be a very effective puller, just as potent as a Farmall, Oliver, MM and others.



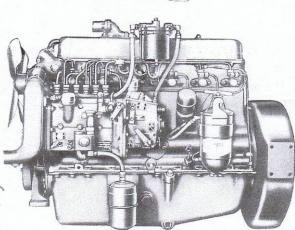
Francis looks for his line at Ridgefield, WA 2009

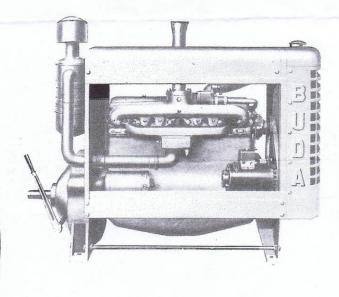
# Proved in Service Engines

#### BUDA "B" & "BD" Gasoline and Diesel Engines



Buda "B" and "BD" Diesel series of 1, 2, 4 and 6 cylinder engines are adaptable to either gasoline, natural gas, butane, or Diesel—with interchangeable parts and mountings. Rugged, compact and easy to service—precision-built by an experienced engine manufacturer. Proved in the field . . . for powering all types of pumps, light plants, compressors, tractors, trucks, and many other types of applications. There are sizes and types for any individual gasoline, natural gas, butane, diesel and generator set applications from 5 to 80 horse-power.





0		No. of	Cu. In.	Bore &	May	Torque			M	aximu	m Br	ake L	lorsep	ower	at Va	arious	Spee	ds		
12	Model No.	Cylinders	Displ.	Stroke		. @ RPM	800 RPM	900 RPM	1000 RPM		1200 RPM	1400 RPM	1600 RPM	1800 RPM	2000 RPM	2200 RPM		2600 RPM	2800 RPM	3000 RPM
3	DIESEL 1-BD-38	1	38	37/16×41/4	24.5	@ 1400	is .		4.5	5	5.5	6.5	4.5	8	8.5					
	2-BD-77	2	77	37/16x41/8	49	@ 1400			9	10	11	13	15	16	17					
30	4-BD-153	4	153	37/16x41/s	102	@ 1400			19	21.5	23.5	27.5	31.5	34.5	37	39	40			
	4-BD-182	4	182	37/16x41/8	124	@ 1400			22.5	25	28	33	37.5	41	43.5	45.5	46.5			
40	6-BD-230	6	230	37/16x41/8	156	@ 1400			28.5	32	35.5	41.5	47.5	51.5	55.5	58	60	- 9		
50	6-BD-273	6	273	3¾ x 4½	197	@ 1350	27	32	37	41	45	52	56	62	65	68.5	72	74.5	75	
	GAS— GASOLINE* 4-B-153	4	153	37/16×41/8	112	@ 1500	15.5	;	18	20.5	23	25	30	3'4	37.5	41	44	46	48	
	4-B-182	4	182	3¾ x 4½	126	@ 1400	22	24	26.5	28.5	31	35	39	43	46	49	51.5	53.5		
40	6-B-230	6	230	37/16x41/8	164	@ 1000	25	28	32	34.5	37	42.5	48	53	57.5	62	65.5	68.5	71	72.
50	6-B-273	6	273	3¾ x 4⅓	205	@ 1000	31	35	39	42	45	52	58	64	69	74	77	80	81.5	5 4

\*Available in natural gas and butane.
6262 AC/Buda Gleaner Combine engine 6 Cyl : block Same as

Cockshutt Quarterly

# CONVERTING COCKSHUTT 40 & 50 GAS TRACTORS TO THE ALLIS CHALMERS/BUDA G230/G262 COMBINE ENGINES

Retain these original Cockshutt parts: 1. Front engine cover 2. Front engine mounting plate (behind cam gear) 3. Crank pulley or buy replacement 4. Front & rear engine mounts and bolts 5. Governor and housings 6. Flywheel and mounting bolts. 7. Pressure plate and clutch assembly 8. Starter 9. Oil fill tube and cap 10. Air cleaner & tube 11. Water pump pulley and fan 12. Distributor & spark plug wires. 13. Throttle rod & linkages 14. Valve cover 15. Manifold and carburetor with linkages 16. Oil pan 17. Generator brackets.

The following steps involve the G230/G262 AC combine engines.

Various productions changes were made over the years.

The following information is to be used as a guide and may not be all inclusive.

- 1. Drain all fluids. Remove valve cover, rocker arm assembly & push rods, distributor, wires & spark plugs. Remove flywheel, rear engine mount, front pulley, front engine cover, governor assembly, any engine mounts, water pump and oil pan.
- 2. Turn engine upside down or lay it over on the distributor side. Rotate the crankshaft one complete revolution to push lifters up out of the way and note timing marks on cam and crank gears.
- 3. Unbolt the oil pump and lay aside. Remove cam thrust plate bolts; noting the location of the one bolt that has an oil passage through it; and camshaft being careful not to nick any of the cam bearings with the cam lobes. Remove front engine plate. Install Cockshutt front engine plate and reinstall camshaft correctly with timing marks. Install cam thrust plate and bolts in the correct positions in order for governor to receive lubrication.
- 4. Install the Cockshutt front engine cover and new seal, front engine mount, crank pulley using the AC crank nut, and Cockshutt governor housing and assembly. Some engines used a bolt and shimming may be required under crank pulley for proper clearance. Install Cockshutt rear engine mount with new seal. Use standard shop manual assembly methods for flywheel and pressure plate installation & alignment.
- 5. Turn engine upright and install the AC oil pump and distributor: timing them as per standard assembly methods. You can use either distributor. Once timing and firing order is set by the standard shop manual assembly methods, install the Cockshutt oil pan.
- 6. Install the AC push rods and rocker arm assembly. Set valve lash per Allis Chalmers recommendations for the engine used.
- 7. Use the AC valve cover or the Cockshutt cover. To install the Cockshutt valve cover, use the 2 Cockshutt valve cover mounting studs that are taller than the AC. You will need to extend the threads in order for the rocker stand mounting nuts to tighten against the stands.
- 8. Remove oil fill plug on right side of block and install Cockshutt oil fill tube and cap. The oil dipstick is usually on the left of side G-series engines and can be relocated to the right side if desired. The engine can be installed in the tractor at this time.
- 9. Remove pulley and extension (if equipped) from the AC water pump and install Cockshutt pulley and fan on water pump hub. Be sure to check how the water pump pulley lines up. Some water pumps were in a high or low position. Modification may be needed to the fan for clearancing. Set radiator in place to make sure the fan is positioned correctly inside the radiator shroud. Use AC water pump #134680 if necessary.
- 10. Use the Cockshutt generator brackets or the AC generator brackets. To use 12v alternator, use brackets from a D-19 gas tractor. Pulley alignment should be correct provided the original style Cockshutt pulleys were used on the crank, water pump & generator. 11. The exhaust stack will go through the original opening through the hood. When using the G-series manifold & carburetor, John Deere hose #R53407 slightly modified will connect the original air inlet tube to the carburetor. Modification of the fuel line, throttle & choke rods will be self evident. Governor arm may need to be bent down to clear bottom of water pump. When using the Cockshutt manifold; remove AC exhaust manifold studs. Replace with the original style used on Cockshutt's in the necessary positions. Then, all original linkages can be used.
- 12. The later G-series oil filter will clear the frame and the bigger diesel oil filter can be used. Earlier engines that have the oil filter mounted lower will need to use the smaller filter. Modifications will also need to be made to connect the oil pressure gauge tubing.

  13. On the left side of the engine, use a suitable throttle rod support mounted to the engine block using one or both of the tapped holes provided. This would take the place of the support/guide used on the back of the Cockshutt oil filter mounting bracket.
- 14. Install Cockshutt starter in original location and connect starter cable. Finish all other connections as necessary for engine operation.

The AC D19 262 gas tractor tested at Nebraska produced 71.54 HP @ 2000 RPM. 262 combine engines could generally operate at 2200 RPM and above. 230 combine engines were in the 50-55 HP range at similar RPM.

This information was compiled through the combined efforts of Larry Grim (215) 804-1061, Phil Heisey, Roger McClure & Keith McClure



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For more information, contact Zack at zack@antiquetractorpullguide.com



## Remaining Pull Schedule - Oregon & Washington

Have a local club with a published pull schedule? Send it to Zack to have it printed in the Podium Newsletter and posted at www.antiquetractorpullguide.com.

	2011 PULLI	NG S	CHEDULE	
DATE	LOCATION	TIME	SPONSOR	PULLER
6/25/11	ROY, WA.	11:00	RAINIER 2 CYLINDER CLUB	*
6/26/11	ROY, WA.	11:00	RAINIER 2 CYLINDER CLUB	
6/25/11	LYNDEN, WA	1:00	PUGET SOUND ANTIQUE TRACTOR & MACH	*%^@
6/26/11	LYNDEN, WA		PUGET SOUND ANTIQUE TRACTOR & MACH	
7/9/11	CANBY, OR.		59 ERS TRACTOR CLUB (ANY STOCK TRACT)	*
7/10/11	(BREMERS FARM)		59 ERS TRACTOR CLUB (ANY STOCK TRACT)	
7/9/11	ELMA, WA.	11:00	A.F.E.T.A 24th ANNUAL SHOW	*
7/10/11	ELMA, WA.		A.F.E.T.A 24th ANNUAL SHOW	
7/16/11	RIDGEFIELD, WA.	11:00	HERITAGE FAIR (O.T.P.A.)	*#^
7/17/11	RIDGEFIELD, WA.		HERITAGE FAIR (O.T.P.A.)	
7/23/11?	TONASKET, WA.	7:00	?	# @
7/24/11	AMITY, OR.		ANNUAL PANCAKE BREAKFAST (N.W.T.P.A.)	*#^
7/29/11	HILLSBORO, OR.		WASHINGTON COUNTY FAIR	#%@
7/29/11	GOLD BEACH, OR.	8:00	CURRY COUNTY FAIR	#
7/30/11	MYRTLE POINT, OR.	8:00	COOS COUNTY FAIR	# @
8/6/11	LEBANON, OR.		NORTHWEST TRACTOR PULLERS ASSN.	*#%^+
8/7/11	LEBANON, OR.	11:00	NORTHWEST TRACTOR PULLERS ASSN.	
8/10/11	RIDGEFIELD, WA.		CLARK COUNTY FAIR	#@%+
8/14/11	RICKREALL, OR.		POLK CTY FAIR - TRACTORS (N.W.T.P.A.)	* # % ^ +
8/14/11	RICKREALL, OR.		POLK CTY FAIR - TRUCKS (N.W.T.P.A.)	
8/13/11	PORT ORCHARD, WA.	11:00	OLYMPIC PENINSULA ANTIQUE TRACTOR &	*
8/14/11	PORT ORCHARD, WA.	11:00		
8/20/11	BANKS, OR	2:00	SUNSET PARK ASSN	* ^
8/20/11	BANKS, OR	5:00	SUNSET PARK ASSN	#
8/21/11	BANKS, OR	1:00	SUNSET PARK ASSN	*#%@^
8/27/11	CANBY, OR.		59 ERS TRACTOR CLUB (ANY STOCK TRACT)	*
8/28/11	(BREMERS FARM)		59 ERS TRACTOR CLUB (ANY STOCK TRACT)	
8/27/11?	TOLEDO, WA.	1:30	COWLITZ PRAIRIE GRANGE	*
8/28/11?	TOLEDO, WA.		COWLITZ PRAIRIE GRANGE	
9/4/11	RITZVILLE, WA		COLUMBIA BASIN PULLERS	* % #
9/9/11	QUINCY, WA		COLUMBIA BASIN PULLERS (PRACTICE DAY)	* %
9/10/11	QUINCY, WA		COLUMBIA BASIN PULLERS (PULL DAY)	
9/9/11	SUBLIMITY, OR.	7:00	SUBLIMITY HARVESTFEST	% @ +
9/10/11	SUBLIMITY, OR.	6:00	SUBLIMITY HARVESTFEST	#%@+
9/11/11	SUBLIMITY, OR.		SUBLIMITY HARVESTFEST	*!
9/17/11	HARRISBURG, OR.		NORTHWEST TRACTOR PULLERS ASSN.	*#%^+
9/17/11	CANBY, OR.		59 ERS TRACTOR CLUB (ANY STOCK TRACT.)	*
9/18/11	(BREMER'S FARM)		59 ERS TRACTOR CLUB (ANY STOCK TRACT.)	11. (1. 1
9/18/11	RIDGEFIELD, WA.		SHERMAN IRON RANCH (O.T.P.A.)	*# ^
9/24/11	INDEPENDENCE, OR.		ANNUAL HOP AND HERITAGE FEST. (O.T.P.A.)	*#^
10/7/11	MOSES LAKE, WA		NORTHWEST FALL NATIONAL PULL	* % #
10/8/11	MOSES LAKE, WA		NORTHWEST FALL NATIONAL PULL	
10/9/11	MOSES LAKE, WA		NORTHWEST FALL NATIONAL PULL	

<sup>\*</sup> STOCK AND ANTIQUE FARM TRACTORS

MODIFIED TRUCKS, MODIFIED TRACTORS

<sup>^</sup> GARDEN TRACTORS ! ATV'S

STOCK TRUCKS

<sup>%</sup> FARM MODIFIED & MODIFIED TRACTORS

<sup>+</sup> COUNTRY MODIFIED



# Coming next month...

- Massey Harris 101 finishing touches
- Battery Cables
- Puller Spotlight
- And more...

#### July issue will be available 7/18/11

I want to hear from you! If you have feedback, requests or information you would like featured, please send an email to: zack@antiquetractorpullguide.com.

Andy Taylor of Sarcoxie, MO proudly sits at the helm of his Farmall C with C135 engine. He's got big plans for this tractor — upgrading to a C153 combine engine.

