MICROFILM DIVIDER

OMB/RECORDS MANAGEMENT DIVISION
SFN 2053 (2/85) 5M

ROLL NUMBER

DESCRIPTION

2054

2001 SENATE TRANSPORTATION

SB 2054

2001 SENATE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. 2054

Senate Transportation Committee

☐ Conference Committee

Hearing Dates 1-11-01;1-19-01;2-1-01

Tape Number		Side A	Side B	Meter #
	1	x		0.0-31.6
1-19-01	1		x	24.8-37.6
2-1-01	2	x		36.9-49.5
Committee Clerk Signature				

Minutes:SB 2054 relates to weight limitations on highways.

Senator Solberg:(District 7, supports bill) Gave a little history on the bill. Gives an example of last April receiving 6-9 calls about incident in Minot involving overweight fertilizer truck. The counties and DOT have problems with overweight vehicles. He states that after calling Highway Patrol, it was decided not to enforce current law involving permit fees.

Senator Espegard: Is the purpose of the weight restriction for the health of the highway?

Senator Solberg: Yes, but what you need to keep in mind is that tire width on fertilizer spreaders are 40 inches. There is a lot less road damage because of less pressure per square inch.

Senator Espegard: As a general practice, do the spreaders and applicators use highways all the time?

Senator Solberg: In my experience, if there is more than 1 load they get a semi because otherwise its not economically smart.

Senator Espegard: So basically the equipment will be on roads to get to job site and back.

Senator Solberg: Yes.

Senator Wanzek (District 29, supports bill) These Ag equipment are designed for field work- and for less pressure per square inch and most time spent in fields and not on roads. He is troubled by " Implements of husbandry" part of bill.

Senator O'Connell: (District 6, supports bill) Currently you need a $20 permit every time. A $20 permit does not cover the roads or breaking the law so what's the point?

Senator Aarsvold: (District 20, supports bill) He states that Trail County does not enforce current law and is in favor of proposed bill.

Dan Kuntz (N.D. Grain Dealer's Association, Lobbyist #249, supports bill) See attached testimony.

Gary Knudson (N.D. Ag Association, Lobbyist #102, supports bill) " This law is necessary for distribution of products. "May not" should be changed to "Will not". (Line 10)

No opposition.

Grant Levi: (NDDOT, neutral) Concerned about " implement of husbandry" (line 6-7). Hands out proposed Amendments to bill 2054. (See attached)

Senator Stenehjem: Can you get a single day or blanket permit?

Grant Levi: I will check and get back to you.

Senator Stenjehem: Obviously there will be restricted bridge limit weight. Most back roads will be posted, will he be able to haul his equipment down there?

Grant Levi: I am not sure at this time.

Hearing closed. Discussion follows.

Senator Stenjehem: I understand what it is what you would like to do- we need to get someone over here to help us get this down and explain things.

Senator Espegard: I don't have a problem with moving farm equipment, but I do have problems with it getting out of hand.

Hearing reopened on SB 2054 on 1-19-01. Discussion reopened on bill.

Senator Stenehjem: Currently, do we have a daily or seasonal overweight limit permit?

Doyle Schulz: (NDHP; Supports) Yes we do. Seasonal permit is $50 and daily trip permit is $20.

Senator Stenehjem: I want Senator O'Connell to work with this. What I want it to say is 550 per inch with thread, not allowed over 80,000 lb., and check to see if the speed is appropriate,

Hearing closed.

Committee reconvened on 2-1-01.

Senator O'Connell presents proposed amendment and hands out testimony. See attached.

Senator Trenbeath motions to accept proposed amendment. Seconded by Senator Bercier. Roll Call taken 6-0-0. Senator Trenbeath made a motion to Do Pass as amended. Seconded by Senator Bercier. Roll Call 6-0-0. Floor carrier is Senator O'Connell.

FISCAL NOTE

Requested by Legislative Council
02/05/2001

Bill/Resolution No.:

Amendment to: SB 2054

1A. **State fiscal effect:** *Identify the state fiscal effect and the fiscal effect on agency appropriations compared to funding levels and appropriations anticipated under current law.*

	1999-2001 Biennium		2001-2003 Biennium		2003-2005 Biennium	
	General Fund	Other Funds	General Fund	Other Funds	General Fund	Other Funds
Revenues						
Expenditures						
Appropriations						

1B. **County, city, and school district fiscal effect:** *Identify the fiscal effect on the appropriate political subdivision.*

1999-2001 Biennium			2001-2003 Biennium			2003-2005 Biennium		
Counties	Cities	School Districts	Counties	Cities	School Districts	Counties	Cities	School Districts

2. **Narrative:** *Identify the aspects of the measure which cause fiscal impact and include any comments relevant to your analysis.*

This bill as amended no longer has a fiscal impact on the state. The latest version of the legislation has removed any reference to eliminating permits for the movement of the equipment referenced in the legislation.

3. **State fiscal effect detail:** *For information shown under state fiscal effect in 1A, please:*
   A. **Revenues:** *Explain the revenue amounts. Provide detail, when appropriate, for each revenue type and fund affected and any amounts included in the executive budget.*

   B. **Expenditures:** *Explain the expenditure amounts. Provide detail, when appropriate, for each agency, line item, and fund affected and the number of FTE positions affected.*

   C. **Appropriations:** *Explain the appropriation amounts. Provide detail, when appropriate, of the effect on the biennial appropriation for each agency and fund affected and any amounts included in the executive budget. Indicate the relationship between the amounts shown for expenditures and appropriations.*

Name:	Jerry Horner	**Agency:**	NDDOT
Phone Number:	328-4443	**Date Prepared:**	02/12/2001

FISCAL NOTE

Requested by Legislative Council
01/05/2001

REVISION

Bill/Resolution No.: SB 2054

Amendment to:

1A. **State fiscal effect:** *Identify the state fiscal effect and the fiscal effect on agency appropriations compared to funding levels and appropriations anticipated under current law.*

	1999-2001 Biennium		2001-2003 Biennium		2003-2005 Biennium	
	General Fund	Other Funds	General Fund	Other Funds	General Fund	Other Funds
Revenues				($60,000)		($65,000)
Expenditures				($6,200)		($6,800)
Appropriations						

1B. **County, city, and school district fiscal effect:** *Identify the fiscal effect on the appropriate political subdivision.*

1999-2001 Biennium			2001-2003 Biennium			2003-2005 Biennium		
Counties	Cities	School Districts	Counties	Cities	School Districts	Counties	Cities	School Districts

2. **Narrative:** *Identify the aspects of the measure which cause fiscal impact and include any comments relevant to your analysis.*

To provide an appropriate estimate of the fiscal impact for this legislation, additional information is needed such as anticipated vehicle density/day, axle configuration, axle loadings and width of tire contact with pavement. . Based on available information, it has to be assumed that damage to the highway pavement section can be expected should all restrictions relative to loadings on the pavement surface be eliminated as proposed by this legislation.

3. **State fiscal effect detail:** *For information shown under state fiscal effect in 1A, please:*
   A. **Revenues:** *Explain the revenue amounts. Provide detail, when appropriate, for each revenue type and fund effected and any amounts included in the executive budget.*

The revenue reductions shown for the two future bienniums reflect the loss of revenue for the anticipated permits sold during the biennium x the $50 fee.

   B. **Expenditures:** *Explain the expenditure amounts. Provide detail, when appropriate, for each agency, line item, and fund affected and the number of FTE positions affected.*

Reduction of expenditures for not selling the permits eliminated by the proposed legislation.

C. **Appropriations:** *Explain the appropriation amounts. Provide detail, when appropriate, of the effect on the biennial appropriation for each agency and fund affected and any amounts included in the executive budget. Indicate the relationship between the amounts shown for expenditures and appropriations.*

Name:	Jerry Horner	**Agency:**	NDDOT
Phone Number:	328-4443	**Date Prepared:**	12/20/2000

FISCAL NOTE

Requested by Legislative Council
12/14/2000

Bill/Resolution No.: SB 2054

Amendment to:

1A. **State fiscal effect:** *Identify the state fiscal effect and the fiscal effect on agency appropriations compared to funding levels and appropriations anticipated under current law.*

	1999-2001 Biennium		2001-2003 Biennium		2003-2005 Biennium	
	General Fund	Other Funds	General Fund	Other Funds	General Fund	Other Funds
Revenues				($60,000)		($65,000)
Expenditures				$6,200		$6,800
Appropriations						

1B. **County, city, and school district fiscal effect:** *Identify the fiscal effect on the appropriate political subdivision.*

1999-2001 Biennium			2001-2003 Biennium			2003-2005 Biennium		
Counties	Cities	School Districts	Counties	Cities	School Districts	Counties	Cities	School Districts

2. **Narrative:** *Identify the aspects of the measure which cause fiscal impact and include any comments relevant to your analysis.*

To provide an appropriate estimate of the fiscal impact for this legislation, additional information is needed such as anticipated vehicle density/day, axle configuration, axle loadings and width of tire contact with pavement. . Based on available information, it has to be assumed that damage to the highway pavement section can be expected should all restrictions relative to loadings on the pavement surface be eliminated as proposed by this legislation.

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   A. **Revenues:** *Explain the revenue amounts. Provide detail, when appropriate, for each revenue type and fund affected and any amounts included in the executive budget.*

The revenue reductions shown for the two future bienniums reflect the loss of revenue for the anticipated permits sold during the biennium x the $50 fee.

   B. **Expenditures:** *Explain the expenditure amounts. Provide detail, when appropriate, for each agency, line item, and fund affected and the number of FTE positions affected.*

Reduction of expenditures for not selling the permits eliminated by the proposed legislation.

   C. **Appropriations:** *Explain the appropriation amounts. Provide detail, when appropriate, of the effect on the biennial appropriation for each agency and fund affected and any amounts included in the executive budget. Indicate the relationship between the amounts shown for expenditures and appropriations.*

Name:	Jerry Horner	**Agency:**	NDDOT
Phone Number:	328-4443	**Date Prepared:**	12/20/2000

10265.0101
Title.

Prepared by the Legislative Council staff for
Senator O'Connell
February 1, 2001

PROPOSED AMENDMENTS TO SENATE BILL NO. 2054

Page 1, line 6, remove "an implement of"

Page 1, line 7, remove "husbandry nor to the commercial"

Page 1, line 8, replace "and" with "or"

Page 1, line 9, replace "one hundred five" with "eighty", remove "five hundred", replace "47854.00" with "38287.39", after the closing bracket insert "or if the weight does not exceed five hundred fifty pounds [249.48 kilograms] per inch of width", and replace "A" with "The highway patrol shall issue a seasonal permit"

Page 1, line 10, remove "fee or permit may not be required"

Page 1, line 11, after the period insert "The seasonal permit issued under this subsection or under subdivision d of subsection 1 of section 39-12-04 entitles an individual with the permit to operate a vehicle as allowed by either of these provisions. A seasonal permit issued under this subsection is subject to the requirements of subdivision d of subsection 1 of section 39-12-04, except a vehicle exempted by this subsection which is an implement of husbandry is not required to have proof of financial responsibility and does not have to be operated by a commercial entity."

Renumber accordingly

Date: 2-1-01
Roll Call Vote #: 1

2001 SENATE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. 2054

Senate **Transportation** Committee

☐ Subcommittee on _____
or
☐ Conference Committee

Legislative Council Amendment Number 10265.0101

Action Taken Do Pass

Motion Made By Trenbeath Seconded By Bercier

Senators	Yes	No	Senators	Yes	No
Senator Stenehjem, Chairman	X		Senator Bercier	X	
Senator Trenbeath, Vice-Chair	X		Senator O'Connell	X	
Senator Espegard	X				
Senator Mutch	X				

Total (Yes) 6 No 0

Absent 0

Floor Assignment _____

If the vote is on an amendment, briefly indicate intent:

Date: 2-1
Roll Call Vote #: 2

2001 SENATE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. 2054

Senate **Transportation** Committee

☐ Subcommittee on _____
or
☐ Conference Committee

Legislative Council Amendment Number _____

Action Taken Do Pass As Amended

Motion Made By Trenbeath Seconded By Bercier

	Senators	Yes	No	Senators	Yes	No
1	**Senator Stenehjem**, Chairman	X		**Senator Bercier** 6	X	
2	**Senator Trenbeath**, Vice-Chair	X		**Senator O'Connell** 5	X	
4	**Senator Espegard**	X				
3	**Senator Mutch**	X				

Total (Yes) 6 No 0

Absent 0

Floor Assignment Sen. O'Connell

If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE

SB 2054: Transportation Committee (Sen. Stenehjem, Chairman) recommends **AMENDMENTS AS FOLLOWS** and when so amended, recommends **DO PASS** (6 YEAS, 0 NAYS, 0 ABSENT AND NOT VOTING). SB 2054 was placed on the Sixth order on the calendar.

Page 1, line 6, remove "an implement of"

Page 1, line 7, remove "husbandry nor to the commercial"

Page 1, line 8, replace "and" with "or"

Page 1, line 9, replace "one hundred five" with "eighty", remove "five hundred", replace "47854.00" with "38287.39", after the closing bracket insert "or if the weight does not exceed five hundred fifty pounds [249.48 kilograms] per inch of width", and replace "A" with "The highway patrol shall issue a seasonal permit"

Page 1, line 10, remove "fee or permit may not be required"

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Renumber accordingly

2001 HOUSE TRANSPORTATION

SB 2054

2001 HOUSE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. SB 2054

House Transportation Committee

☐ Conference Committee

Hearing Date February 15, 2001

Tape Number	Side A	Side B	Meter #
1	x		623
Committee Clerk Signature	Lawrence L. Fink		

Minutes: Rep. Weisz - Chairman opened the hearing on SB 2054 as engrossed: A BILL for an Act to create and enact a new subsection to section 39-12--05.3 of the North Dakota Century Code, relating to weight limitations on highways.

Sen. O'Connell: I represent District 6, Grand Forks. Last spring somebody bought a floater in Grand Forks and was moving it to Dickinson. These floaters have about a 40" tire. They travel probably about 35 mph. He crossed the scale in Minot. When he weighed in the front was 9800 pounds -- the back axle was 21,240 which put him over weight on a 20,000 restriction. They had a new guy on the scale in Minot. The next day they sent the Patrol after him. They brought him back and he had 2 tons in -- as you know they do bounce a little. That put him over pretty good on the scale. He unloaded it. He was 21,240 pounds on the back axle for a total of 31,000. About that time Senator Solberg's phone started jumping off the hook and so did mine as he was a neighbor of ours. That is why this bill is before --- as far as square inches of tire on the ground -- everything was OK. What we did over in the Senate was -- The Patrol doesn't look at

the square inches of tire-- they look at the 40" tire -- they spread that weight over the 40" -- so what we did in the Senate was not allow over 550 pounds per inch of tire. That is basically what we did in the Senate. There was some concern that it should be a daily permit. -- Thats a real pain because these people sometimes move 7-- 8-- 10 times a day. You have to have it in the mail --- it is next to impossible to do. So what we did is we put a 1 time seasonal permit for $50 which they already have to use and commercial operators have show proof of $300,000 insurance and we exempt the farm from having to show proof of insurance.

Rep. Weisz - Chairman (909) Why did the Senate amend this down from the 105 (thousand pounds)?

Sen. O'Connell: The 105 was what we thought we should cover everybody but take the highways like the Interstate -- the ---you know the 80,000 pounds is what you have without a special permit. There is no way --- somebody always finds a way -- so if you take one of these machines that we use like Cargill gets -- if you put 6 tons of fertilizer in it you still only come up with 42,000 pounds. So we thought we were in the variance area.

Rep. Weisz - Chairman (956) So your big issue the axle weights? The single axle?

Sen. O'Connell: Right -- the single axle was the big thing. They had the big tire on the ground. We had the DOT work up schedule and it nearly always came up to about 450 pounds per inch.

Rep. Hawken: (1001) Why doesn't the farmer have to show proof of insurance?

Sen. O'Connell: At this time they are exempt from the law. So we put it in that they didn't have to show financial proof for $300,000. But the commercial you want the $300,000 in case something -- or whatever.

Rep. Pollert - Vice Chairman: (1035) Was there discussion on what they call the 'Rogators' and the size of their tires which might be 9" tires -- some are 10" and I think they go up to 15"?

Sen. O'onnell: Yes sir -- there was a lot of discussion because they do go down to a 6" tire. We discussed that with DOT also. Most get down to a 9.5 " tire. They were still legal. What is happening we will probably have to change the law in 2 years anyway -- South Dakota is doing study on all sizes of tires -- I run a 42" width of tire -- and that's 18.5 by 42 -- I have a lot more tire on the ground because of the height and that is what they are studying in South Dakota. So rather than look at just the width -- look at how much tire is on the ground. South Dakota is doing an in-depth study -- and if I remember what comes out of South Dakota -- they kind of figure we're exempt from most everything until they get their study done.

Rep. Weisz - Chairman (1153) Did the speed issue come up at all? Like the Rogator, for example, they are limited to 20 - 30 mph speeds anyway.

Sen. O'Connnell: Yes -- it was one of the in depth issues for discussion. On the tires the manufacturers -- they put right on the tires -- the recommended -- not to exceed 25 mph. Also we were a little bit scared -- at one time, too -- may be they are going to be running on the shoulder -- instead of the road -- but we did look at it -- we didn't put it on. So that possibly one for discussion -- the speed limit.

Rep. Jensen: (1214) What is a Road - gator?

Sen. O'Connell: A rogator is basically one of these high wheeled sprayers that you can walk underneath ---now most of them have a lift -- some of them do have optional equipment that spreads the hydraulic drive -- but they basically go down between rows -- sunflowers, beans -- and go through standing crops -- like we have the ridge problem now -- a lot of them have the

9.5 -- some of them down to the 6" tires but mostly those aren't used the whole lot in the spring --they are used mostly in the summer -- could be used for liquid chemical in the spring but that doesn't happen much anymore -- I'll bring a book in for your.

Rep. Ruby: (1358) What is the legal weight per square inch now?

Sen. O'Connell: What we do now is no' to exceed 550 per inch of tire . They are not required to cross the scales but this one did at Minot and he wouldn't have had to.

Rep: Aarsvold: I represent District 20 -- Traill County. I am a co-sponsor of this bill. I am also representing several ground applicators in my District who have concerns about the current law and would like to see the bill as amended in Senate become law. I do have a black and white photo of the Rogator -- and some other industrial information that will be important for the committee to review as they deliberate on this particular bill. The bill was amended significantly in the Senate and for the most part as a farmer and a patron of the elevators who own and use ground application equipment -- for the most part I as a farmer --- and as a patron of elevators who own and use ground application -- I don't have a problem -- other than perhaps the 550 pounds -- again it gets back to the Rogator issue whose high clearance narrow tired machine that go into standing crops typically and apply usually liquid chemical or fertilizer -- they are some that are applying dry products but --for the most part they are not widely used -- if a all in North Dakota -- the 550 pound per linear inch does become a problem if they are applying fertilizer -- particularly. The water based products are not a problem -- with the lighter carrier --they are able to fall under that 550 pound per inch required that bill would put in place. I think the formula is flawed in that I the diameter of the wheel is a critical issue and Senator O'Connell did touch on that but we are now looking at tires that are 6.5 or 7.0 feet high as opposed to the traditional ag

tire --- I remember running a D John Deere with 28" tires -- a now we went to , I guess the 32 - pretty soon we tried the 38 and now were at 46 plus inch tires in height. So the diameter has dramatically increased the square inches of tire are applied to the road when they are moving these implements on the road -- and also in the field for that matter-- so I would hope the committee would consider that -- in talking to some of folks who are in the business -- they even suggest to expand this to 600 pound per inch and retain the formula --- for the most part put them within the parameters of the law. I also suggest there might well be a need for an emergency clause on this bill to provide for an opportunity for the farmers who might be in the field before this bill would become law with an effective date of July 1. I would suggest to the committee to consider the emergency clause so that we could make this legal for the current spring planting season.

Rep. Pollert - Vice Chairman: (1776) These sprayers whether they be dry or chemical --- in the spring this equipment is going to have be empty if you are talking the 6" or 7" tire going out to the field -- so you are going to have to have an extra trip for that place of business to bring the carrier of the water or the chemical trucks -- the dry fertilizers -- is that correct?

Rep. Aarsvold: That is correct. I remind the committee that those types of tires would not be used in the spring time of the year. Typically they would use the 15" width tire in the spring. Then when they get to the standing crops then they narrow up. But at least the applicators in my area have not gone narrower than 12.9 inch tire -- even in standing crop. So they would fit well within the 600 pound per inch which I suggested.

Rep. Pollert - Vice Chairman: What is the weight of an empty Rogator?

Rep. Aarsvold: The information is there with the packet of materials -- I thinks its 23,000 pounds - that is rough number ---

Rep. Weisz - Chairman They vary from 8,500 to 28,000 pounds.

Rep. Jon Nelson: I serve District 7 -- which is all of Pierce, McHenry and part of Ward County. I come here to add bipartisan support. Obviously this is an important issue, especially in the spring of the year when most of the application -- the equipment and these tires are on the road. I think the technical questions have been answered.

Terry Traynor: I am with the Association of Counties. We feel it is appropriate to appear as we had some concerns when the bill first came up in the Senate. It was much broader and it was a little concerning to the road officials in the counties because of the exemption of the weight limits but the Senate did a great job in narrowing to specific implements and specific conditions that they are using them in. So we are offering our support for the bill as it was amended.

Rep. Follert - Vice Chairman: (2193) In the discussion about the 600 pounds would the counties have a problem with that?

Terry Traynor: There was discussion about that in the Senate. There was some apprehension about -- one of the things we were talking about was the speed -- of course every pound you add on that -- the speed is perhaps an even more important factor -- we were assured that because of the speed limitations in the equipment itself that they only travel 35 miles an hour -- that was the controlling factor and also the higher speed the damage to these very expensive tires would was the thing most applicators were most concerned about. So they felt that speed limit wasn't necessary in the bill. It is sort of self regulating but the road official were worried about the weights and of course we have think about the speeds.

Dan Kuntz: I am here on behalf of the North Dakota Grain Dealers Association. The Grain Dealers Association represent over 90% of the grain elevators in the State. Many of these elevators operate this type of equipment for commercial application for their patrons. This is an important business not only for the input suppliers but also the farmers. These pieces are on the road for only a very short time of the year. Because the weather and field conditions -- farmers and applicators have a very narrow window in terms of when this equipment need to be out there and put these chemicals down. It is explained to me that this equipment is not only moving from the place of business out to the farm but between farms and between fields and they have to cross roads and are on the roads for short distances to get to another field. Having to unload the fertilizer and the chemicals for those short trips would really slow the operations down and add to the expense. We would appreciate your support of SB 2054.

Gary Knutson: I am with the North Dakota Agricultural Association. Our primary membership base are the agronomy centers around the state. They do operate these units. We have been involved from the start. We feel, at least for the moment, that it meets the needs of members and meet a lot of the situations where it is critical that we go with units where the current state law would require us to have tender fleets and a lot of extra expenditure in equipment to go out in the field empty. We feel that his a good methodology to deal with the problem.

OPPOSITION TESTIMONY

Tim Horner: I from the ND DOT - and I am an engineer for Office of Program Services.

Rep. Weisz - Chairman (2604) Do you (the Department) have any data as though how difference in damage there is on the road say -- between a speed of 25 versus 50 mph for the

same -- I am looking the effects of speed on impacts -- do you have any data that shows that relationship?

Tim Horner: I am not aware of any such study like that. There be some underway now that we are not aware of.

Rep. Weisz - Chairman It is the Departments position that speed is a factor in ---

Tim Horner: Yes speed does have an impact on heavy loads. In bridge design in particular we put an application factor for impact loads of moving vehicles onto the static load.

Rep. Carlson: (2697) This bill is or places an exemption; what is the standard -- this one says not exceed 80,000 pounds -- but because this an exception to that -- what normal be?
It says the gross weight limitations in section 1 and 2 do not apply to this type of vehicle -- what would be apply to every other type vehicle?

Tim Horner: I am not aware what the allow would cover -- that would be more the Highway Patrol area.

Rep. Weisz - Chairman (2775) That would be 32,000 on a single axle. --if you don't count ??? You are licensed for over that --

Rep. Carlson: (2788) I am trying -- to equate this to what would be in use when it is normal - - so would this apply anytime you would use this equipment on the roads -- even if there are load limits on the road? In the spring time there are load limits. The reason I ask this is because we do build in the rural areas and there are time when we can't get our excavator, we can't get our concrete trucks, we can't get our gravel trucks to our job sites -- because of the load limits and the effect it might have on the roads -- I am just trying to figure out what or how far this pushes the envelope beyond what we could haul done that same road.

Tim Horner: I don't have answer for that as that is not my area of expertise.

Rep. Carlson: I don't care who answers that -- I just want to know.

Rep. Weisz - Chairman (2918) Being there is no one else who wishes to appear for or against SB 2045, the hearing for receipt of further testimony is closed. (2918).

2001 HOUSE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. SB 2054B

House Transportation Committee

❑ Conference Committee

Hearing Date March 1, 2001

Tape Number	Side A	Side B	Meter #
2	x		205
Committee Clerk Signature			

Minutes: In work session -- 2:00 PM - March 1, 2001. Rep. Weisz - Chairman had the Clerk call the roll and opened the discussion on SB 2054.

Rep. Pollert - Vice Chairman offered the following amendment: " on line 8 after 'the' insert "vehiclestravels at speeds of 30 miles per hour or less," and we would also like to add at the bottom an emergency clause.

Following discussion-- Rep. Pollert - Vice Chairman move that amendment as proposed be approved.

Rep. Hawken: I move to second the motion.

On a voice vote the amendment carried.

Rep. Pollert - Vice Chairman moved a 'Do Pass as Amended' for SB 2054.

Rep. Kelsch: I second the motion.

On roll call vote SB 2054 carried: 9 yeas 2 nays 3 absent. Rep. Pollert was designated to carry SB 2054 on the floor.

Date: 3/1/01
Roll Call Vote #:

2001 HOUSE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. SB 2054B

House Transportation Committee

☐ Subcommittee on

or

☐ Conference Committee

Legislative Council Amendment Number

Action Taken Do Pass as Amended

Motion Made By Rep. Pollert Seconded By Rep. Kelsch

Representatives	Yes	No	Representatives	Yes	No
Robin Weisz - Chairman	✓		Howard Grumbo	✓	
Chet Pollert - Vice Chairman	✓		John Mahoney	✓	
Al Carlson		✓	Arlo E. Schmidt	✓	
Mark A. Dosch	✓		Elwood Thorpe	A	
Kathy Hawken	✓				
Roxanne Jensen	A				
RaeAnn G. Kelsch	✓				
Clara Sue Price	A				
Dan Ruby	✓				
Laurel Thoreson		✓			

Total (Yes) 9 No 2

Absent 3

Floor Assignment Rep. Pollert

If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE

SB 2054, as engrossed: Transportation Committee (Rep. Weisz, Chairman) recommends **AMENDMENTS AS FOLLOWS** and when so amended, recommends **DO PASS** (9 YEAS, 2 NAYS, 3 ABSENT AND NOT VOTING). Engrossed SB 2054 was placed on the Sixth order on the calendar.

Page 1, line 2, after "highways" insert "; and to declare an emergency"

Page 1, line 8, after "the" insert "vehicle travels at speeds of thirty miles [48.28 kilometers] per hour or less or the"

Page 1, after line 18, insert:

"**SECTION 2. EMERGENCY.** This Act is declared to be an emergency measure."

Renumber accordingly

2001 SENATE TRANSPORTATION

CONFERENCE COMMITTEE

SB 2054

2001 SENATE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. SB 2054

Senate Transportation Committee

X Conference Committee

Hearing Date 3-29-01;4-5-01;4-10-01

Tape Number	Side A	Side B	Meter #
2	x		0.0-40.8
4-5 1	x		0.0-19.5
4-10 1	x		0.0-9.7
Committee Clerk Signature	Suzette Schafer		

Minutes: **SB 2054 relates to weight limitations on highways.**

Senator Stenehjem: To me I read this to say that if you travel less than 30 mph, it doesn't matter how much you weigh. Just because you drove slow, you could drive whatever you want to on the road. That was not our intent.

Rep. Weisz: We are in reality looking at two different vehicles, a chemical applicator and a fertilizer spreader. If vehicles are willing to drive slower causing less damage to the road, they would be exempt from the 550 lb.. per inch width requirement. The rational for that has to do with the type of machine, type of tire, and the fact that by doing this, these machines could go directly to the fields. The purpose of this is not to exempt them from the 80,000 lb.., but the vehicle would be exempt if they drive under 30 mph, they should be exempt from the 550 per square inch. South Dakota didn't used to have a weight restriction, they put speed limits on it. We do not take the different tires and variables into account. A tall tire has way more traction. The top speed of these Rogators are 30 mph. Floaters can drive 50-60 mph. Then you get into the

issue of the amount of impact that has on the roads and we are saying that should be subject to the 80,000 and 550 per square inch, which takes care of any abuse on the roads.

Senator Stenehjem: I don't see that we limited them to 80,000 lb..

Rep. Weisz: That is possible, that was not our intent. It was only to exempt them from the 550 per square inch for speeds under 30 mph. The language is unclear.

Senator Stenehjem: Currently it's illegal the way they are running now and that is where the problem started. I was willing to make a compromise with existing law as long as they did not go over the 550 lb.. per inch with the tread. Maybe this does not take into account every machine.

Rep. Weisz: I don't think Rogators have to be in here because I think farm tractors don't have to. We are putting them in this group only to make it clear. We are going to have a real issue if every farm tractor is now subject to 550 per square inch.

Senator O'Connell: On Rogators, in the Spring a wider tire is used and as the rows get narrower they go from the 18 inch tire down to the 9 inch.

Rep. Weisz: We are not taking into account the diameters and heights. A tire with 24 inch diameter and 32 inches of height has way less tire on the road than the extremely narrow tire that's 54 inches tall. We are penalizing that tire because we are not taking this into account.

Senator Trenbeath: The type of tire you are talking about is different than the truck tire. The truck tire is going to have much more footprint based on it's tread than the tall tractor tire.

Rep.Weisz: I would disagree with that assumption. If you look at the contact patch of a truck tire versus a 54 inch tire, I will guarantee you that the contact is going to be 2-3 times more and we are going to penalize them. In reality, I am not sure if you can even regulate them. We just wanted to make it clear in this legislation.

Senator Stenehjem: Maybe we should just leave them out and worry about them some other time.

Rep. Weisz: There is an issue with the floaters because they are on a licensed truck chassis and travel at highway speeds.

Senator Stenehjem: I think we should address in this legislation those trucks that it was intended to address. If we end up with a problem on these other ones, then we will address it in another piece of legislation.

Senator O'Connell: South Dakota is going to be doing a study on tires, treads, etc. So this will be changed in another 2 years anyway, but we do need this bill for the next 2 years.

Rep. Weisz: Do you have a problem with deleting "chemical applicator"?

Senator O'Connell: Yes, I do to keep things clear. They need to be covered.

Rep. Pollert: I can see where the wording is getting confusing because it looks like we have 3 separate categories. If we could amend the cill to say A= 80,000 lb.. B= 550 lb., and then have a subdivision that would address the 550 lb. saying "if the speed was 30 mph or less".

Senator Stenehjem: So if I can get a 4 tired vehicle with 9 inch tires to weigh 80,000 lb., then it would be legal to drive down the road.

Rep. Pollert: In all essence, yes.

Rep. Weisz: If you set it at 46,000 for that class, it would be wonderful.

Senator O'Connell: I have some Ag chemicals data. 12.6 tires weigh approximately 12,500 lb., the front axle weighs 6100. So you get 484 lb.. per square inch on the front and 508 lb.. per square inch on the rear.

Discussion and calculations on pounds per square inch.

Senator Stenehjem: What is going to happen on a #2 road restriction?

Rep. Weisz: They are still subject to the national limits.

Rep. Pollert: The reality is that these Rogators are going to run down the road anyway and we have got to make these legal.

Rep. Weisz: I've served on a township board for years. There has never been a single complaint or concern with one of these rigs damaging a road because they don't do it. They spread the load out and drive slowly.

Senator Trenbeath: What are Minnesota and Iowa doing?

Senator O'Connell: South Dakota did a study that was inconclusive and now are going to do another study on various tires, speeds, etc. Some other southern states where the heat is, Rogators are required to be hauled. They run with narrow tires down there so it's a different situation.

Senator O'Connell: What do you know about the SD study?

Levi Grant: South Dakota is studying this issue. The issue is inch per tire width contact, speeds, and the damage done to roadway. They are considering all different types of tires. It is my understanding that they can operate on roadways until the study is completed. I am not familiar with speed restrictions. It's my understanding that in the past, the Highway Patrol allowed these vehicles out on the roadways. There was a situation where a particular machine was driving across the state. He pulled into a scale and it came to the Highway Patrol's attention that he was exceeding the weight limitations.

Senator Stenehjem: What do you want this bill to look like Rep. Weisz?

Rep. Weisz: For simplicity state, we would exempt them and put the emergency clause on. Exempt them until we come back in 2003 and hopefully they will have the study done.

Senator O'Connell: What would your speed recommendation be?

Levi Grant: We did ask them to add a speed provision. It's centered around a number of different things. I believe we asked for 25 mph, and it was moved to 30 mph. I would be comfortable at 30 mph.

Rep. Weisz: In my personal experience, it's usually not an issue until you hit 35 mph because then they bounce.

Senator Trenbeath hands out proposed amendment # 10265.0202.

Discussion held on proposed amendment.

Senator Stenehjem: Levi Grant would you do some research involving a random sample of county engineers and get their views?

Levi Grant: I would be happy to do that.

Committee closed.

Committee reopened on 4-5-01.

Amendments handed out by Senator Trenbeath and Rep. Weisz.

Senator Trenbeath and Rep. Weisz both explain their proposed amendments.

Senator Trenbeath: The situation we are trying to address is not necessarily with the counties, but with find these township supervisors at the time you need to find them, which is usually in the Spring of the year to get these things done. Keep in mind the contractual situations also.

Senator Trenbeath: The situation is not necessarily whether a gravel pit is in your township or county, but rather the road system you have to take to get it from point A to point B could be across a number of counties. You will never get all of those people at the table at one time or a circulated document.

Senator Stenehjem: Sen. Trenbeath, you only address the paved roads. Also, most paved roads are county and not township roads. If we do something like this, are we forcing the counties and townships to put load restrictions on all the roads that they never had to do before?

Senator Trenbeath: The amendment as I presented it would not allow the counties to set restrictions on a construction haul road. This is not a situation that has the potential to harm townships and counties. All it is doing is giving the presumption that 105,500 is allowable, the contractor is still liable for the damage.

Senator Stenehjem: This is complicated enough and is an issue separate and I believe it should be a bill where both sides could come in and discuss this. This deserves a hearing of it's own.

Senator O'Connell: We could put in for a delayed bill.

Senator O'Connell: I contacted my county commissioners and there wasn't one of them that was in favor. Their concerns were with the damage that wasn't seen right away.

Rep. Grumbo: In my area where the gravel pits are, I see the hundreds of trucks for the summer projects driving the roads. You see the effects and breakups of the roads about now, Spring, as a result of these Summer projects.

Senator Trenbeath: If this amendment were to pass, you would see fewer trucks, but bigger. Those roads to the gravel pits are continually used so there is, I suspect, continuos maintenance.

Senator Stenehjem asks opinions of the spectators/experts in the conference room.

All legislators except Senator Trenbeath seem to be in mutual agreement that the only issue that should be in question here is SB 2054.

Senator Trenbeath: I would certainly be able to work with Rep. Weisz to work with his amendments and move forward.

Conference Committee closed on 4-5-01.

Conference committee reopened on 4-10-01.

Rep Weisz hands out amendments.

Rep. Weisz: Basically, this breaks out the vehicles into two separate categories.

Senator Stenehjem: What are we doing on page 1, Subsection 2?

Senator Trenbeath: This is an editing situation which makes things clearer. It does not change current law.

Levi Grant: (Deputy Director for Engineering) States that SD is continuing the study and they will continue to follow up and look at the SD study for next session.

Senator Stenehjem: I would like to see the 35mph changed to 30mph.

Rep. Weisz moves adoption of amendment with the change from 35mph to 30mph. Seconded by Senator Trenbeath. Voice vote called. All in favor.

Senator Stenehjem: For the record, the motion was made to accept proposed amendments with the change from 35mph to 30 mph.

Senator O'Connell motions to Do Pass as amended. Rep. Pollert seconds. Roll call taken. 6-0-0.

Floor carriers are Senator O'Connell and Rep. Weisz.

Committee closed.

Proposed 4-5 by Rep. Weisz

PROPOSED AMENDMENTS TO ENGROSSED SENATE BILL 2054

Page 1, line 1, replace "a" with "two" and replace "subsection" with "subsections"

Page 1, line 2, after "highways' insert "; and to declare an emergency"

Page 1, line 8, after "the" insert "vehicle travels at speeds of thirty miles [48.28 kilometers] per hours or less or the"

Page 1, after line 18, insert:

"SECTION 2. A new subsection to section 39-12-05.3 of the 1999 Supplement to the North Dakota Century Code is created and enacted as follows:

The director, and local authorities, as to highways under their respective jurisdictions, may issue permits authorizing vehicles necessary for a particular highway construction project to exceed weight limitations stated in subsections 1 and 2, but not in excess of a gross weight of one hundred five thousand five hundred pounds [47854.00 kilograms]. The director or local authority may not issue such permit without assurance by the permitee that all road damage will be mitigated within 30 days of project completion and necessary efforts will be made to ensure public safety during the project to the satisfaction of the director or local authority. The director or local authority may deny a permit request for reasons of public safety, structure inadequacy, and past performance in damage mitigation.

SECTION 3. EMERGENCY. This Act is declared to be an emergency measure"

Renumber accordingly

proposed 329

10265.0202
Title.

Prepared by the Legislative Council staff for
Senator Trenbeath
March 26, 2001

PROPOSED AMENDMENTS TO ENGROSSED SENATE BILL NO. 2054

That the House recede from its amendments as printed on page 728 of the Senate Journal and page 782 of the House Journal and that Engrossed Senate Bill No. 2054 be amended as follows:

Page 1, line 2, after "highways" insert "; to amend and reenact subsection 2 of section 39-12-05.3 of the North Dakota Century Code, relating to weight limitations on highways; and to declare an emergency"

Page 1, after line 3, insert:

"**SECTION 1. AMENDMENT.** Subsection 2 of section 39-12-05.3 of the 1999 Supplement to the North Dakota Century Code is amended and reenacted as follows:

2. Subject to the limitations imposed by subsection 1 on tires, wheel, and axle loads, the gross weight of which exceeds that determined by the formula or:

$$W = 500 \left(\frac{LN}{N-1} + 12N + 36\right)$$

where W equals the maximum gross weight in pounds on any vehicle or combination of vehicles; L equals distance in feet between the two extreme axles of any vehicle or combination of vehicles; and N equals the number of axles of any vehicle or combination of vehicles under consideration. The gross weight on ~~state~~ highways may not exceed one hundred five thousand five hundred pounds [47854.00 kilograms] unless otherwise posted ~~and on all other highways the gross weight may not exceed eighty thousand pounds [36287.39 kilograms] unless designated by local authorities for highways under their jurisdiction for gross weights not to exceed one hundred five thousand five hundred pounds [47854.00 kilograms]. Local authorities are encouraged to assess all roads under their jurisdiction and designate the roads for the appropriate weight limits allowed under this subsection~~."

Page 1, underscore lines 6 and 7

Page 1, line 8, underscore "the" and insert immediately thereafter "vehicle travels at speeds of thirty miles [48.28 kilometers] per hour or less or the" and underscore "gross weight does not exceed eighty thousand pounds [38287.39 kilograms] or"

Page 1, underscore lines 9 through 18

Page 1, after line 18, insert:

"**SECTION 3. EMERGENCY.** This Act is declared to be an emergency measure."

Renumber accordingly

Proposed 4-5

10265.0203
Title.

Prepared by the Legislative Council staff for
Senator Trenbeath
April 4, 2001

PROPOSED AMENDMENTS TO ENGROSSED SENATE BILL NO. 2054

That the House recede from its amendments as printed on page 728 of the Senate Journal and page 782 of the House Journal and that Engrossed Senate Bill No. 2054 be amended as follows:

Page 1, line 1, replace "create and enact a new subsection to" with "amend and reenact"

Page 1, line 2, after "highways" insert "; and to declare an emergency"

Page 1, line 4, replace "A new subsection to section" with "Section"

Page 1, line 5, replace "created and enacted" with "amended and reenacted"

Page 1, after line 5, insert:

"39-12-05.3. Weight limitations for vehicles on highways other than the interstate system.

1. A person may not operate on a highway~~, which~~ that is not part of the interstate system, any vehicle:

~~1.~~ ~~With~~ with a single axle that carries a gross weight in excess of twenty thousand pounds [9071.85 kilograms] or a wheel load over ten thousand pounds [4535.92 kilograms]. A wheel may not carry a gross weight over five hundred fifty pounds [249.48 kilograms] for each inch [2.54 centimeters] of tire width. Axles spaced forty inches [101.60 centimeters] apart or less are considered as one axle. On axles spaced over forty inches [101.60 centimeters] and under eight feet [2.44 meters] apart, the axle load may not exceed seventeen thousand pounds [7711.07 kilograms] per axle, with a maximum of forty-eight thousand pounds [21772.32 kilograms] gross weight on any grouping of three or more axles. The wheel load, in any instance, may not exceed one-half the allowable axle load. Spacing between axles is measured from axle center to axle center.

2. Subject to the limitations imposed by subsection 1 on tires, wheel, and axle loads, a person may not operate on a highway that is not part of the interstate system any vehicle the gross weight of which exceeds that determined by the formula of:

$$W = 500 \left(\frac{LN}{N-1} + 12N + 36\right)$$

where W equals the maximum gross weight in pounds on any vehicle or combination of vehicles; L equals distance in feet between the two extreme axles of any vehicle or combination of vehicles; and N equals the number of axles of any vehicle or combination of vehicles under consideration. The gross weight on state highways may not exceed one hundred five thousand five hundred pounds [47854.00 kilograms] unless otherwise posted and on all other highways the gross weight may not exceed eighty thousand pounds [36287.39 kilograms] unless designated by local authorities for highways under their jurisdiction for gross weights not to exceed one hundred five thousand five hundred pounds [47854.00 kilograms]. Local authorities are encouraged to assess all roads under their jurisdiction and

designate the roads for the appropriate weight limits allowed under this subsection.

3. The gross weight limitations in subsections 1 and 2 do not apply to equipment the director and the state highway patrol approve for exemption. The exemption may not exceed one hundred five thousand five hundred pounds [47854.00 kilograms]. For every vehicle approved for exemption the highway patrol shall issue a nontransferable permit valid for one year. The highway patrol may charge an administrative fee for the permit.

4. The director, and local authorities, as to the highways under their respective jurisdictions, may issue permits authorizing a specific motor vehicle to exceed the weight limitations stated in subsections 1 and 2 by ten percent. The permits may not provide for a gross weight in excess of one hundred five thousand five hundred pounds [47854.00 kilograms]. The permits must provide only for the movement of agricultural products from the field of harvest to the point of initial storage site, and for the collection and transport of solid wastes, during the period from July fifteenth to December first, and for the general movement of products during the period from December first to March seventh. The appropriate jurisdictional authority shall establish an appropriate fee for the permits and direct how they shall be issued. The highway patrol shall issue the permits authorized by the director.

5. The director, and local authorities, as to highways under their respective jurisdictions, may issue permits authorizing all vehicles carrying potatoes or sugar beets to exceed weight limitations stated in subsections 1 and 2 by ten percent during the period from July fifteenth to December first. The permits may not provide for a gross weight in excess of one hundred five thousand five hundred pounds [47854.00 kilograms]. The appropriate jurisdictional authority shall establish an appropriate fee for the permits and direct how they shall be issued. The highway patrol shall issue the permits authorized by the director.

6."

Page 1, underscore lines 6 and 7

Page 1, line 8, underscore "the" and insert immediately thereafter "vehicle travels at speeds of thirty miles [48.28 kilometers] per hour or less or the" and underscore "gross weight does not exceed eighty thousand pounds [36287.39 kilograms] or"

Page 1, underscore lines 9 through 18

Page 1, after line 18, insert:

"7. The gross weight limitations in subsection 2 do not apply to vehicles operating as part of a state or county road building or improvement project, provided the vehicle is on a paved highway and has a gross weight not in excess of one hundred five thousand five hundred pounds [47854.00 kilograms].

SECTION 2. EMERGENCY. This Act is declared to be an emergency measure."

Renumber accordingly

Prepared by the Legislative Council staff for
Representative Weisz
April 5, 2001

PROPOSED AMENDMENTS TO ENGROSSED SENATE BILL NO. 2054

That the House recede from its amendments as printed on page 728 of the Senate Journal and page 782 of the House Journal and that Engrossed Senate Bill No. 2054 be amended as follows:

Page 1, line 1, replace "create and enact a new subsection to" with "amend and reenact"

Page 1, line 2, after "highways" insert "; to provide an expiration date; and to declare an emergency"

Page 1, line 4, replace "A new subsection to section" with "Section"

Page 1, line 5, replace "created and enacted" with "amended and reenacted"

Page 1, after line 5, insert:

"39-12-05.3. Weight limitations for vehicles on highways other than the interstate system.

1. A person may not operate on a highway~~, which~~ that is not part of the interstate system, any vehicle:

   ~~1.~~ ~~With~~ with a single axle that carries a gross weight in excess of twenty thousand pounds [9071.85 kilograms] or a wheel load over ten thousand pounds [4535.92 kilograms]. A wheel may not carry a gross weight over five hundred fifty pounds [249.48 kilograms] for each inch [2.54 centimeters] of tire width. Axles spaced forty inches [101.60 centimeters] apart or less are considered as one axle. On axles spaced over forty inches [101.60 centimeters] and under eight feet [2.44 meters] apart, the axle load may not exceed seventeen thousand pounds [7711.07 kilograms] per axle, with a maximum of forty-eight thousand pounds [21772.32 kilograms] gross weight on any grouping of three or more axles. The wheel load, in any instance, may not exceed one-half the allowable axle load. Spacing between axles is measured from axle center to axle center.

2. Subject to the limitations imposed by subsection 1 on tires, wheel, and axle loads, a person may not operate on a highway that is not part of the interstate system any vehicle the gross weight of which exceeds that determined by the formula of:

$$W = 500 \left(\frac{LN}{N-1} + 12N + 36\right)$$

where W equals the maximum gross weight in pounds on any vehicle or combination of vehicles; L equals distance in feet between the two extreme axles of any vehicle or combination of vehicles; and N equals the number of axles of any vehicle or combination of vehicles under consideration. The gross weight on state highways may not exceed one hundred five thousand five hundred pounds [47854.00 kilograms] unless otherwise posted and on all other highways the gross weight may not exceed eighty thousand pounds [36287.39 kilograms] unless designated by local authorities for highways under their jurisdiction for gross weights not to exceed one hundred five thousand five hundred pounds [47854.00 kilograms]. Local

authorities are encouraged to assess all roads under their jurisdiction and designate the roads for the appropriate weight limits allowed under this subsection.

3. The gross weight limitations in subsections 1 and 2 do not apply to equipment the director and the state highway patrol approve for exemption. The exemption may not exceed one hundred five thousand five hundred pounds [47854.00 kilograms]. For every vehicle approved for exemption the highway patrol shall issue a nontransferable permit valid for one year. The highway patrol may charge an administrative fee for the permit.

4. The director, and local authorities, as to the highways under their respective jurisdictions, may issue permits authorizing a specific motor vehicle to exceed the weight limitations stated in subsections 1 and 2 by ten percent. The permits may not provide for a gross weight in excess of one hundred five thousand five hundred pounds [47854.00 kilograms]. The permits must provide only for the movement of agricultural products from the field of harvest to the point of initial storage site, and for the collection and transport of solid wastes, during the period from July fifteenth to December first, and for the general movement of products during the period from December first to March seventh. The appropriate jurisdictional authority shall establish an appropriate fee for the permits and direct how they shall be issued. The highway patrol shall issue the permits authorized by the director.

5. The director, and local authorities, as to highways under their respective jurisdictions, may issue permits authorizing all vehicles carrying potatoes or sugar beets to exceed weight limitations stated in subsections 1 and 2 by ten percent during the period from July fifteenth to December first. The permits may not provide for a gross weight in excess of one hundred five thousand five hundred pounds [47854.00 kilograms]. The appropriate jurisdictional authority shall establish an appropriate fee for the permits and direct how they shall be issued. The highway patrol shall issue the permits authorized by the director.

6."

Page 1, underscore line 6

Page 1, line 7, underscore "self-propelled fertilizer spreader", remove "or self-propelled agricultural chemical applicator", and underscore "if"

Page 1, underscore line 8

Page 1, replace line 9 with "to movement of a self-propelled agricultural chemical applicator if the gross weight does not exceed forty-five thousand pounds [20411.66 kilograms]. Movement under this section is limited to a maximum of thirty-five miles [56.33 kilometers] per hour on a highway"

Page 1, line 10, remove "of width" and underscore ". The highway patrol shall issue a seasonal permit for the movement of"

Page 1, underscore lines 11 through 18

Page 1, after line 18, insert:

"**SECTION 2. EXPIRATION DATE.** This Act is effective through July 31, 2003, and after that date is ineffective.

SECTION 3. EMERGENCY. This Act is declared to be an emergency measure."

Renumber accordingly

10265.0207
Title.

Prepared by the Legislative Council staff for
Representative Weisz
April 10, 2001

PROPOSED AMENDMENTS TO ENGROSSED SENATE BILL NO. 2054

That the House recede from its amendments as printed on page 728 of the Senate Journal and page 782 of the House Journal and that Engrossed Senate Bill No. 2054 be amended as follows:

Page 1, line 1, replace "create and enact a new subsection to" with "amend and reenact"

Page 1, line 2, after "highways" insert "; to provide an expiration date; and to declare an emergency"

Page 1, line 4, replace "A new subsection to section" with "Section"

Page 1, line 5, replace "created and enacted" with "amended and reenacted"

Page 1, after line 5, insert:

"39-12-05.3. Weight limitations for vehicles on highways other than the interstate system.

1. A person may not operate on a highway~~, which~~ that is not part of the interstate system, any vehicle:

~~1.~~ ~~With~~ with a single axle that carries a gross weight in excess of twenty thousand pounds [9071.85 kilograms] or a wheel load over ten thousand pounds [4535.92 kilograms]. A wheel may not carry a gross weight over five hundred fifty pounds [249.48 kilograms] for each inch [2.54 centimeters] of tire width. Axles spaced forty inches [101.60 centimeters] apart or less are considered as one axle. On axles spaced over forty inches [101.60 centimeters] and under eight feet [2.44 meters] apart, the axle load may not exceed seventeen thousand pounds [7711.07 kilograms] per axle, with a maximum of forty-eight thousand pounds [21772.32 kilograms] gross weight on any grouping of three or more axles. The wheel load, in any instance, may not exceed one-half the allowable axle load. Spacing between axles is measured from axle center to axle center.

2. Subject to the limitations imposed by subsection 1 on tires, wheel, and axle loads, a person may not operate on a highway that is not part of the interstate system any vehicle the gross weight of which exceeds that determined by the formula of:

$$W = 500 \left(\frac{LN}{N-1} + 12N + 36\right)$$

where W equals the maximum gross weight in pounds on any vehicle or combination of vehicles; L equals distance in feet between the two extreme axles of any vehicle or combination of vehicles; and N equals the number of axles of any vehicle or combination of vehicles under consideration. The gross weight on state highways may not exceed one hundred five thousand five hundred pounds [47854.00 kilograms] unless otherwise posted and on all other highways the gross weight may not exceed eighty thousand pounds [36287.39 kilograms] unless designated by local authorities for highways under their jurisdiction for gross weights not to exceed one hundred five thousand five hundred pounds [47854.00 kilograms]. Local

authorities are encouraged to assess all roads under their jurisdiction and designate the roads for the appropriate weight limits allowed under this subsection.

3. The gross weight limitations in subsections 1 and 2 do not apply to equipment the director and the state highway patrol approve for exemption. The exemption may not exceed one hundred five thousand five hundred pounds [47854.00 kilograms]. For every vehicle approved for exemption the highway patrol shall issue a nontransferable permit valid for one year. The highway patrol may charge an administrative fee for the permit.

4. The director, and local authorities, as to the highways under their respective jurisdictions, may issue permits authorizing a specific motor vehicle to exceed the weight limitations stated in subsections 1 and 2 by ten percent. The permits may not provide for a gross weight in excess of one hundred five thousand five hundred pounds [47854.00 kilograms]. The permits must provide only for the movement of agricultural products from the field of harvest to the point of initial storage site, and for the collection and transport of solid wastes, during the period from July fifteenth to December first, and for the general movement of products during the period from December first to March seventh. The appropriate jurisdictional authority shall establish an appropriate fee for the permits and direct how they shall be issued. The highway patrol shall issue the permits authorized by the director.

5. The director, and local authorities, as to highways under their respective jurisdictions, may issue permits authorizing all vehicles carrying potatoes or sugar beets to exceed weight limitations stated in subsections 1 and 2 by ten percent during the period from July fifteenth to December first. The permits may not provide for a gross weight in excess of one hundred five thousand five hundred pounds [47854.00 kilograms]. The appropriate jurisdictional authority shall establish an appropriate fee for the permits and direct how they shall be issued. The highway patrol shall issue the permits authorized by the director.

6."

Page 1, underscore line 6

Page 1, replace line 7 with "self-propelled fertilizer spreader if the vehicle does not travel at speeds in excess of thirty-five miles [56.33 kilometers] per hour when loaded over one-half capacity and"

Page 1, line 8, underscore "the gross weight does not exceed eighty thousand pounds [38287.39 kilograms]" and remove "or"

Page 1, remove line 9

Page 1, line 10, remove "of width", underscore the period and insert immediately thereafter "The gross weight limitations in subsections 1 and 2 do not apply to movement of a self-propelled agricultural chemical applicator if the vehicle does not travel at speeds in excess of thirty miles [48.28 kilometers] per hour when loaded over one-half capacity and the gross weight does not exceed forty-five thousand pounds [20411.66 kilograms].", and underscore "The highway patrol shall issue a seasonal permit for the movement of"

Page 1, underscore lines 11 through 18

Page 1, after line 18, insert:

"**SECTION 2. EXPIRATION DATE.** This Act is effective through July 31, 2003, and after that date is ineffective.

SECTION 3. EMERGENCY. This Act is declared to be an emergency measure."

Renumber accordingly

Date: 4-10
Roll Call Vote #: 1

2001 SENATE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. SB 2054

Senate **Transportation** Committee

☐ Subcommittee on SB 2054
or
☒ Conference Committee

Legislative Council Amendment Number 10265.0207

Action Taken move adoption of amendments w/ change from 35mph to 30mph

Motion Made By Rep Weisz Seconded By Sen. Trenbeath

Senators	Yes	No	Representatives	Yes	No
Senator Stenehjem, Chairman			**Rep. Weisz**		
Senator Trenbeath, Vice-Chair			**Rep. Pollert**		
Senator O'Connell			**Rep. Grumbo**		

Total (Yes) _____ No _____

Absent Voice Vote

Floor Assignment _____

If the vote is on an amendment, briefly indicate intent:

amendment w/ a change of 35 mph to 30 mph

Adopted by the Conference Committee
April 10, 2001

4-10-1
1 of 3

PROPOSED AMENDMENTS TO ENGROSSED SENATE BILL NO. 2054

That the House recede from its amendments as printed on page 728 of the Senate Journal and page 782 of the House Journal and that Engrossed Senate Bill No. 2054 be amended as follows:

Page 1, line 1, replace "create and enact a new subsection to" with "amend and reenact"

Page 1, line 2, after "highways" insert "; to provide an expiration date; and to declare an emergency"

Page 1, line 4, replace "A new subsection to section" with "Section"

Page 1, line 5, replace "created and enacted" with "amended and reenacted"

Page 1, after line 5, insert:

"39-12-05.3. Weight limitations for vehicles on highways other than the interstate system.

1. A person may not operate on a highway~~, which~~ that is not part of the interstate system, any vehicle:

~~1.~~ ~~With~~ with a single axle that carries a gross weight in excess of twenty thousand pounds [9071.85 kilograms] or a wheel load over ten thousand pounds [4535.92 kilograms]. A wheel may not carry a gross weight over five hundred fifty pounds [249.48 kilograms] for each inch [2.54 centimeters] of tire width. Axles spaced forty inches [101.60 centimeters] apart or less are considered as one axle. On axles spaced over forty inches [101.60 centimeters] and under eight feet [2.44 meters] apart, the axle load may not exceed seventeen thousand pounds [7711.07 kilograms] per axle, with a maximum of forty-eight thousand pounds [21772.32 kilograms] gross weight on any grouping of three or more axles. The wheel load, in any instance, may not exceed one-half the allowable axle load. Spacing between axles is measured from axle center to axle center.

2. Subject to the limitations imposed by subsection 1 on tires, wheel, and axle loads, a person may not operate on a highway that is not part of the interstate system any vehicle the gross weight of which exceeds that determined by the formula of:

$$W = 500 \left(\frac{LN}{N-1} + 12N + 36\right)$$

where W equals the maximum gross weight in pounds on any vehicle or combination of vehicles; L equals distance in feet between the two extreme axles of any vehicle or combination of vehicles; and N equals the number of axles of any vehicle or combination of vehicles under consideration. The gross weight on state highways may not exceed one hundred five thousand five hundred pounds [47854.00 kilograms] unless otherwise posted and on all other highways the gross weight may not exceed eighty thousand pounds [36287.39 kilograms] unless designated by local authorities for highways under their jurisdiction for gross weights not to exceed one hundred five thousand five hundred pounds [47854.00 kilograms]. Local authorities are encouraged to assess all roads under their jurisdiction and

designate the roads for the appropriate weight limits allowed under this subsection.

3. The gross weight limitations in subsections 1 and 2 do not apply to equipment the director and the state highway patrol approve for exemption. The exemption may not exceed one hundred five thousand five hundred pounds [47854.00 kilograms]. For every vehicle approved for exemption the highway patrol shall issue a nontransferable permit valid for one year. The highway patrol may charge an administrative fee for the permit.

4. The director, and local authorities, as to the highways under their respective jurisdictions, may issue permits authorizing a specific motor vehicle to exceed the weight limitations stated in subsections 1 and 2 by ten percent. The permits may not provide for a gross weight in excess of one hundred five thousand five hundred pounds [47854.00 kilograms]. The permits must provide only for the movement of agricultural products from the field of harvest to the point of initial storage site, and for the collection and transport of solid wastes, during the period from July fifteenth to December first, and for the general movement of products during the period from December first to March seventh. The appropriate jurisdictional authority shall establish an appropriate fee for the permits and direct how they shall be issued. The highway patrol shall issue the permits authorized by the director.

5. The director, and local authorities, as to highways under their respective jurisdictions, may issue permits authorizing all vehicles carrying potatoes or sugar beets to exceed weight limitations stated in subsections 1 and 2 by ten percent during the period from July fifteenth to December first. The permits may not provide for a gross weight in excess of one hundred five thousand five hundred pounds [47854.00 kilograms]. The appropriate jurisdictional authority shall establish an appropriate fee for the permits and direct how they shall be issued. The highway patrol shall issue the permits authorized by the director.

6."

Page 1, underscore line 6

Page 1, replace line 7 with "self-propelled fertilizer spreader if the vehicle does not travel at speeds in excess of thirty miles [48.28 kilometers] per hour when loaded over one-half capacity and"

Page 1, line 8, underscore "the gross weight does not exceed eighty thousand pounds [38287.39 kilograms]" and remove "or"

Page 1, remove line 9

Page 1, line 10, remove "of width", underscore the period and insert immediately thereafter "The gross weight limitations in subsections 1 and 2 do not apply to movement of a self-propelled agricultural chemical applicator if the vehicle does not travel at speeds in excess of thirty miles [48.28 kilometers] per hour when loaded over one-half capacity and the gross weight does not exceed forty-five thousand pounds [20411.66 kilograms].", and underscore "The highway patrol shall issue a seasonal permit for the movement of"

Page 1, underscore lines 11 through 18

Page 1, after line 18, insert:

"**SECTION 2. EXPIRATION DATE.** This Act is effective through July 31, 2003, and after that date is ineffective.

SECTION 3. EMERGENCY. This Act is declared to be an emergency measure."

Renumber accordingly

Date: 4-10
Roll Call Vote #: 2

2001 SENATE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. SB 2054

Senate **Transportation** Committee

☐ Subcommittee on _____
or
☒ Conference Committee

Legislative Council Amendment Number 10265.0207 / .0208

Action Taken Do Pass as Amended

Motion Made By Sen. O'Connell Seconded By Rep. Pollert

Senators	Yes	No	Representatives	Yes	No
Senator Stenehjem, Chairman	X		**Rep. Weisz**	X	
Senator Trenbeath, Vice-Chair	X		**Rep. Pollert**	X	
Senator O'Connell	X		**Rep. Grumbo**	X	

Total (Yes) _____ No _____

Absent _____

Floor Assignment O'Connell | Weisz

If the vote is on an amendment, briefly indicate intent:

* proposed amendment w/ a change of 35mph → 30mph.

REPORT OF CONFERENCE COMMITTEE

SB 2054, as engrossed: Your conference committee (Sens. Stenehjem, Trenbeath, O'Connell and Reps. Weisz, Poilert, Grumbo) recommends that the **HOUSE RECEDE** from the House amendments on SJ page 728, adopt amendments as follows, and place SB 2054 on the Seventh order:

That the House recede from its amendments as printed on page 728 of the Senate Journal and page 782 of the House Journal and that Engrossed Senate Bill No. 2054 be amended as follows:

Page 1, line 1, replace "create and enact a new subsection to" with "amend and reenact"

Page 1, line 2, after "highways" insert "; to provide an expiration date; and to declare an emergency"

Page 1, line 4, replace "A new subsection to section" with "Section"

Page 1, line 5, replace "created and enacted" with "amended and reenacted"

Page 1, after line 5, insert:

"39-12-05.3. Weight limitations for vehicles on highways other than the interstate system.

1. A person may not operate on a highway~~, which~~that is not part of the interstate system, any vehicle:

~~1.~~ ~~With~~ with a single axle that carries a gross weight in excess of twenty thousand pounds [9071.85 kilograms] or a wheel load over ten thousand pounds [4535.92 kilograms]. A wheel may not carry a gross weight over five hundred fifty pounds [249.48 kilograms] for each inch [2.54 centimeters] of tire width. Axles spaced forty inches [101.60 centimeters] apart or less are considered as one axle. On axles spaced over forty inches [101.60 centimeters] and under eight feet [2.44 meters] apart, the axle load may not exceed seventeen thousand pounds [7711.07 kilograms] per axle, with a maximum of forty-eight thousand pounds [21772.32 kilograms] gross weight on any grouping of three or more axles. The wheel load, in any instance, may not exceed one-half the allowable axle load. Spacing between axles is measured from axle center to axle center.

2. Subject to the limitations imposed by subsection 1 on tires, wheel, and axle loads, a person may not operate on a highway that is not part of the interstate system any vehicle the gross weight of which exceeds that determined by the formula of:

$$W = 500 \left(\frac{LN}{N-1} + 12N + 36\right)$$

where W equals the maximum gross weight in pounds on any vehicle or combination of vehicles; L equals distance in feet between the two extreme axles of any vehicle or combination of vehicles; and N equals the number of axles of any vehicle or combination of vehicles under consideration. The gross weight on state highways may not exceed one hundred five thousand five hundred pounds [47854.00 kilograms] unless otherwise posted and on all other highways the gross weight may not exceed eighty thousand pounds [36287.39 kilograms] unless designated

by local authorities for highways under their jurisdiction for gross weights not to exceed one hundred five thousand five hundred pounds [47854.00 kilograms]. Local authorities are encouraged to assess all roads under their jurisdiction and designate the roads for the appropriate weight limits allowed under this subsection.

3. The gross weight limitations in subsections 1 and 2 do not apply to equipment the director and the state highway patrol approve for exemption. The exemption may not exceed one hundred five thousand five hundred pounds [47854.00 kilograms]. For every vehicle approved for exemption the highway patrol shall issue a nontransferable permit valid for one year. The highway patrol may charge an administrative fee for the permit.

4. The director, and local authorities, as to the highways under their respective jurisdictions, may issue permits authorizing a specific motor vehicle to exceed the weight limitations stated in subsections 1 and 2 by ten percent. The permits may not provide for a gross weight in excess of one hundred five thousand five hundred pounds [47854.00 kilograms]. The permits must provide only for the movement of agricultural products from the field of harvest to the point of initial storage site, and for the collection and transport of solid wastes, during the period from July fifteenth to December first, and for the general movement of products during the period from December first to March seventh. The appropriate jurisdictional authority shall establish an appropriate fee for the permits and direct how they shall be issued. The highway patrol shall issue the permits authorized by the director.

5. The director, and local authorities, as to highways under their respective jurisdictions, may issue permits authorizing all vehicles carrying potatoes or sugar beets to exceed weight limitations stated in subsections 1 and 2 by ten percent during the period from July fifteenth to December first. The permits may not provide for a gross weight in excess of one hundred five thousand five hundred pounds [47854.00 kilograms]. The appropriate jurisdictional authority shall establish an appropriate fee for the permits and direct how they shall be issued. The highway patrol shall issue the permits authorized by the director.

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Page 1, replace line 7 with "self-propelled fertilizer spreader if the vehicle does not travel at speeds in excess of thirty miles [48.28 kilometers] per hour when loaded over one-half capacity and"

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Page 1, remove line 9

Page 1, line 10, remove "of width", underscore the period and insert immediately thereafter "The gross weight limitations in subsections 1 and 2 do not apply to movement of a self-propelled agricultural chemical applicator if the vehicle does not travel at speeds in excess of thirty miles [48.28 kilometers] per hour when loaded over one-half capacity and the gross weight does not exceed forty-five thousand pounds [20411.66

kilograms]_.", and underscore "The highway patrol shall issue a seasonal permit for the movement of"

Page 1, underscore lines 11 through 18

Page 1, after line 18, insert:

"**SECTION 2. EXPIRATION DATE.** This Act is effective through July 31, 2003, and after that date is ineffective.

SECTION 3. EMERGENCY. This Act is declared to be an emergency measure."

Renumber accordingly

Engrossed SB 2054 was placed on the Seventh order of business on the calendar.

2001 TESTIMONY

SB 2054

NORTH DAKOTA GRAIN DEALERS ASSOCIATION

STEVEN D. STREGE, Executive Vice President
CHERYAL WELLE, Executive Assistant
CONNIE LEIER, Administrative Assistant
Ph: 701-235-4184, Fax: 701-235-1026
118 Broadway, 606 Black Bldg., Fargo, ND 58102

LARRY PHILLIPS, Safety & Health Director
Ph: 701-251-9112, Fax: 701-251-1758
P.O. Box 6055, Jamestown, ND 58402-6055

STU LETCHER, Safety Specialist
Ph: 701-543-3110, Fax: 701-543-4183
P.O. Box 72, Hatton, ND 58240

TESTIMONY ON SB 2054
SENATE TRANSPORTATION COMMITTEE
SENATOR BOB STENEHJEM, CHAIRMAN
FRIDAY JANUARY 12, 2001 -- 9:00 A.M.

Good morning Mr. Chairman and members of the Committee. My name is Dan Kuntz. I am here representing the North Dakota Grain Dealers Association. NDGDA is a 90-year-old voluntary membership trade association in which more than 90% of our state's grain elevators hold membership. Many of these grain elevators are also in the ag inputs supply business.

Fertilizer and chemical application is big and important business for North Dakota ag input suppliers and North Dakota farmers. These heavy vehicles are out on the road for only a short time every year. This exception is necessary to keep those ag inputs flowing and our farmers' crops growing.

These big pieces of equipment are commonly referred to as "floaters". The name is also a good description. They "float" on top of wet farmland where vehicles with standard tires would be stuck in the mud. These big tires distribute the weight so that the pounds per square inch on the road surface is less than loaded semi trucks.

North Dakota is an agricultural state. Its laws need to accommodate the equipment in today's agriculture. Your Do Pass recommendation on this bill will help keep this commerce moving.

I will be happy to respond to any questions.

10265.0100
Fifty-seventh
Legislative Assembly
of North Dakota

SENATE BILL NO. 2054

Introduced by
Senators Solberg, O'Connell, Wanzek
Representatives Aarsvold, Nelson, Rennerfeldt

A BILL for an Act to create and enact a new subsection to section 39-12-05.3 of the North Dakota Century Code, relating to weight limitations on highways.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. A new subsection to section 39-12-05.3 of the 1999 Supplement to the North Dakota Century Code is created and enacted as follows:

The gross weight limitations in subsections 1 and 2 do not apply to ~~an implement of husbandry nor to~~ the commercial movement of a self-propelled fertilizer spreader and self-propelled agricultural chemical applicator if the gross weight on state highways does not exceed one hundred five thousand five hundred pounds [47854.00 kilograms] unless otherwise posted and on all other highways the gross weight may not exceed eighty thousand pounds [36287.39 kilograms] unless designated by local authorities for highways under their jurisdiction for gross weights not to exceed one hundred five thousand five hundred pounds [47854.00 kilograms]. The maximum speed of the self-propelled fertilizer spreader and the self-propelled agricultural equipment shall not exceed twenty- five miles per hour. A fee or permit may not be required for the movement of vehicles exempted by this subsection.

AG-CHEM EQUIPMENT CO., INC.

5720 Smetana Dr., Suite 100, Minnetonka, MN 55343, USA. Phone: 952-945-2368, Fax: 952-912-8411

TO: LeAnna Emmer

FROM: Norman A. Bauer
Vice President of Engineering

NO. PAGES (Including Cover): 15

DATE: January 24, 2001

FAX: 701-328-1642

FAX MESSAGE:

Tire data enclosed per our phone conversation.

Norman A. Bauer
Vice President of Engineering

5720 Smetana Drive
Minnetonka, Minnesota 55343

Direct: 952/945-2368
Tel: 952/933-9006
Fax: 952/912-8411
E-Mail: nbauer@agchem.com

pounds per inch width of tire = gross axle weight ÷ width of tire

854 Tire Data Sheet

ag-chem equipment co., inc.

Tire Model	Width (in)	Overall Dia (in)	Static Loaded Radius (in)	Cold Inflation Pressure +3/-0 psi	Flat Plate Area (in^2)	Flat Plate Tire Ground Pressure (PSI) Empty Wt = 21800 Front 5560 lb (51%)	Rear 5340 lb (49%)
Firestone 320/90R46 Radial	12.6	69.1	32.2	58	195	29	27
Firestone 14.9R46 5* Radial	15.0	71.8	33.1	48	240	23	22
Firestone 23.1-26 10 ply Bias	23.8	63.0	28.0	30	370	15	14

Front Gross axle wgt ÷ tire width
5560 ÷ 12.6" = 441 ÷ 2 tires = 221# per inch width of tire

Rear Gross axle wgt ÷ tire width
5340# ÷ 12.6" = 424# ÷ 2 tires = 212# per inch width of tire

10:47 AM1/23/01

1054/1254 Tire Data Sheet

ag-chem EQUIPMENT CO., INC.

Tire Model	Width (in)	Overall Dia (in)	Static Loaded Radius (in)	Cold Inflation Pressure +3/-0 psi	Flat Plate Area (in²)	Flat Plate Tire Ground Pressure (PSI)	
						Empty Wt= 25000	
						* Front 6100 lb (49%)	* Rear 6400 lb (51%)
* Firestone 320/90R50 Radial	* 12.6	73.1	34.2	52	205	30	31
Firestone 14.9R46 5" Radial	15.0	71.8	33.1	48	240	26	27
Firestone 18.4R42 3" Radial	18.8	73.0	32.8	36	350	18	18
Firestone 24.5-32 12 ply Bias	24.4	71.9	31.8	30	430	14	15

gross axle weight ÷ tire width = pounds per inch width of tire

front axle 6100 ÷ 12.6" = 484 ÷ 2 tires = 242# per inch width of tire

rear axle 6400 ÷ 12.6" = 508 ÷ 2 tires = 254# per inch width of tire

8103 Tire Data Sheet

Tire Model	Width (in)	Overall Dia (in)	Static Loaded Radius (in)	Cold Inflation Pressure +3/-0 psi	Flat Plate Area (sq in)
66x43-25	41.5	67.8	30.3	25	625

		Empty Machine Weight (lb)		Flat Plate Tire Ground Pressure (psi)
	Air Spreader	Total	28170	
		Front	9200	14.7
		Rear	18970	16.2
*	Air Max	Total	30880	
		Front	9500	15.2
		Rear	21380	17.1
*	TB/4B	Total	32480	
		Front	9700	15.5
		Rear	22780	16.2
*	L2020	Total	23880	
		Front	9200	14.7
		Rear	14680	11.7
*	L3020	Total	23880	
		Front	9200	14.7
		Rear	14680	11.7
*	Liquid 1800	Total	28550	
		Front	10500	16.8
		Rear	18050	14.4

gross axle wgt ÷ tire width = # per inch width of tire.

Air Max
front axle: 9500# ÷ 41.5" = 229# ÷ 2 tires = 115# per inch width of tire
rear axle: 21380# ÷ 41.5" = 515# ÷ 2 tires = 258# per inch width of tire.

TB/4B
Rear axle: 22780 ÷ 41.5" = 549# ÷ 2 tires = 275# per inch width of tire

L2020 & L3020
Rear axle: 14680 ÷ 41.5" = 354# ÷ 2 tires = 177# per inch width of tire.

Liquid 1800
Rear axle: 18050 ÷ 41.5" = 435# ÷ 2 tires = 218# per inch width of tire.

6103 Tire Data Sheet

Tire Model	Width (in)	Overall Dia (in)	Static Loaded Radius (in)	Cold Inflation Pressure +3/-0 psi	Flat Plate Area (sq in)
66x43-25	x 41.5	67.8	30.3	25	625

		Empty Machine Weight (lb)		Flat Plate Tire Ground Pressure (psi)
*	L2020	Total	22920	
		Front	9000	14.4
		x Rear	13920	11.1
*	Liquid 1600	Total	27590	
		Front	10000	16.0
		* Rear	17590	14.1

L2020

Rear axle: 13920 # ÷ 41.5" (tire width) = 335 # ÷ 2 tires = 168 # per inch width of tire

Liquid 1800

Rear axle: 17590 ÷ 41.5" (tire width) = 424 # ÷ 2 tires = 212 # per inch width of tire.

8104/8144 Tire Data Sheet

Tire Model	Width (in)	Overall Dia (in)	Static Loaded Radius (in)	Cold Inflation Pressure +3/-0 psi	Flat Plate Area (sq in)
Fr 45x31-20	x 30.5	51.0	22.7	30	380
Rr 66x43-25	x 41.5	67.8	30.3	25	625

		Empty Machine Weight (lb)		Flat Plate Tire Ground Pressure (psi)
X	Air Spreader	Total	26170	
		X Front	9200	12.1
		X Rear	16970	15.2
X	Air Max	Total	30880	
		Front	9500	12.5
		* Rear	21380	17.1
X	TB/4B	Total	32460	
		Front	9700	12.8
		* Rear	22760	18.2
	L2020	Total	23880	
		Front	9200	12.1
		Rear	14680	11.7
	L3020	Total	24860	
		Front	9200	12.1
		Rear	15660	12.5
	Liquid 1800	Total	28650	
		Front	10500	13.8
		Rear	18050	14.4

gross axle wgt ÷ tire width = # per inch width of tire

Air spreader

Front axle: 9200 ÷ 30.5" = 302 # per inch width of tire

rear axle: 18970 ÷ 41.5" = 458# ÷ 2 tires = 229# per inch width of tire

Air Max

Rear axle: 21380# ÷ 41.5" = 515# ÷ 2 tires = 257.5# per inch width of tire

T[redacted]

Rear axle: 22780# ÷ 41.5 = 549# ÷ 2 tires = 275# per inch width of tire

9103 Tire Data Sheet

Tire Model	Width (in)	Overall Dia (in)	Static Loaded Radius (in)	Cold Inflation Pressure +3/-0 psi	Flat Plate Area (sq in)
73x44-32	X 43.2	74	32.5	30	730

		Empty Machine Weight (lb)		Flat Plate Tire Ground Pressure (psi)
X	Air Spreader	Total	33740	
		Front	9200	12.6
		X Rear	24540	16.8
X	Air Max	Total	37660	
		Front	9500	13.0
		x Rear	28160	19.3
X	TB/4B	Total	40080	
		Front	9700	13.3
		X Rear	30380	20.8
	L3020	Total	27010	
		Front	9200	12.6
		Rear	17810	12.2
X	Liquid 2400	Total	33110	
		Front	11000	15.1
		X Rear	22110	15.1

gross axle wgt ÷ tire width = # per inch width of tire

Air spreader

Rear axle: 24,540# ÷ 43.2" = 568# ÷ 2 tires = 284# per inch width of tir

Air Max

Rear axle: 28,160# ÷ 43.2" = 652# ÷ 2 tires = 326# per inch width of tire.

TB/4B

Rear axle: 30,380# ÷ 43.2" = 703# ÷ 2 tires = 351.5# per inch width of tire

Liquid 2400

Rear axle: 22110# ÷ 43.2# = 512# ÷ 2 tires = 256# per inch width of tire

9105 Tire Data Sheet

Tire Model	Width (in)	Overall Dia (in)	Static Loaded Radius (in)	Cold Inflation Pressure +3/-0 psi	Flat Plate Area (sq in)
66x43-25	X 41.5	67.8	30.3	25	625

			Empty Machine Weight (lb)	Flat Plate Tire Ground Pressure (psi)
X	4000 Sludge	Total	38700	
		Front	11500	18.4
		X Rear	27200	10.9

gross axle wgt ÷ tire width = # per inch width of tire

Rear axle: 27200# ÷ 41.5" = 656# ÷ 2 tires = 328# per inch width of tire

3104 Tire Data Sheet

Tire Model	Width (in)	Overall Dia (in)	Static Loaded Radius (in)	Cold Inflation Pressure +3/-0 psi	Flat Plate Area (sq in)
66x43-25	41.5	67.8	30.3	25	625
73x44-32	43.2	74	32.5	30	730

		Empty Machine Weight (lb)		Flat Plate Tire Ground Pressure (psi)
X	3100 Sludge w/66x43-25	Total	33650	
		Front	15500	12.4
		Rear	18150	14.5
Y	3100 Sludge w/73x44-32	Total	36050	
		Front	16700	11.4
		Rear	19350	13.3

9 axle wgt ÷ tire width = # per inch width of tire

3100 Sludge

front axle: 15500 ÷ 41.5" = 374# per inch width of tire

rear axle: 18150 ÷ 41.5" = 437# ÷ 2 tires = 219 # per inch width of ti

3100 Sludge

front axle: 16700# ÷ 43.2" = 387# per inch width of tire

rear axle: 19350# ÷ 43.2" = 448# ÷ 2 tires = 224# per inch width of tire.

Dimension data

TIRE SIZE	TREAD TYPE	PLY RATING	RECOM'D RIM	OVERALL WIDTH	OVERALL DIA	STATIC LOADED RADIUS	REVS PER MILE	FLAT PLATE CONTACT AREA
38x20.00-16.1 NHS	TR STG	10 8	W16C W16C	19.0 18.5	38.5 38.5	17.2 17.2	556 556	160 160
38x14.00-20 NHS	ST STG	4 4	W11H W11H	14.0 14.0	39.2 39.5	17.6 17.8	566 552	140 130
41x14.00-20 NHS	ST	4	W11H	14.0	41.2	18.3	519	170
42x25.00-20 NHS	STG-S STG XT	8, 12 12SG	20.5VF 20.5VF	24.7 24.7	42.3 43.1	19.6 20.0	503 492	195 205
44x16.00-20 NHS	ST	4	W14L	16.6	44.6	20.6	480	213
44x41.00-20 NHS	SM STG	10 10	36.0VF• 36.0VF•	37.0 36.0	46.0 46.0	21.2 21.2	467 465	350 320
48x25.00-20 NHS	STG STG XT	8, 10 10	20.5VF• 20.5VF•	24.8 24.8	48.5 50.1	21.4 22.2	441 424	310 325
48x31.00-20 NHS	STG STG XT	10, 12 12	26.0VF• 26.0VF•	29.8 29.8	49.0 50.6	21.7 22.5	437 420	350 370
66x43.00-25 NHS	STG STG STG XT	8, 8, 10, 12SG 20 8, 10, 12SG	36.0T-1.5 36.0STA-2.5 36.0T-1.5	41.4 41.4 41.4	66.5 66.5 67.7	29.4 29.4 30.2	322 322 316	600 600 630
66x44.00-25 NHS	TG	8, 16	36.0T-1.5	44.0	66.5	29.4	326	620
67x34.00-25 NHS	CFG STG	8, 10SG 8, 10SG	30.0T-1.5 30.0T-1.5	33.8 34.0	67.7 67.7	29.9 29.9	316 315	540 550
54x31.00-26 NHS	STG SFT105	8, 8, 10 8	DW26 DW26	30.5 30.5	55.0 54.4	24.6 24.6	387 395	394 425
67x34.00-26 NHS	CFG	10	DW30-1.125	34.0	67.7	29.9	315	540
67x34.00-30 NHS	CFG	8, 10, 12	DW30-1.125	32.5	67.7	30.2	314	520
VA73x44.00-32 NHS	STG XT CFG	12.16SC 12, 12SG	36.0VA-1.7 36.0VA-1.7	43.2 42.4	73.4 75.7	33.0 33.8	290 282	795 820

NOTE: Ply Ratings listed may not be available or additional tires may have been added since this book was printed. Contact your Goodyear Dealer or Service Store for tire availability.
SG - Steel Guard.

• - Job Master Rims
1 See page 4 for Penetrated Contact Area
2 See tire photo page 14.
3 Optional 1.3 flange height. See flange recommendation page 27.

LOAD & INFLATION TABLE
Max Speed 30 MPH

Loads (lbs.) at various inflation pressure (psi-cold)

TIRE SIZE	10	15	20	25	30	35	40	45	50	60
38x20.00-16.1 NHS	1720	2160	2580(4)	2940	3250(6)	3580(8)	3950	4140(10)		
38x14.00-20 NHS	1380	1750	2070	2360(4)	2620	2870	3100	3320	3540(8)	
41x14.00-20 NHS	1520	2310	2740	3120(4)						
42x25.00-20 NHS	1990	2520	2980	3400	3780(8)	4140(10)	4460	4780(12)		
44x16.00-20 NHS	2250	2850	3380(4)							
44x41.00-20 NHS	3080	3380	4000	4560(10)						
48x25.00-20 NHS	2870	3780	4480(8)	5080	5680(8)	6200(10)	6700	7150	7600(14)	
48x31.00-20 NHS	3100	3940	4880(8)	5300(8)	5900(10)	6450	7000(12)	7500(14)		
66x43.00-25 NHS	3940	7400(8)	8780(8)	10000(10)	11100(12)	12200	13200	14100	15000(20)	
66x44.00-25 NHS	4080	7650(8)	9080	10300(10)	11500	12600	13600(16)			
67x34.00-25 NHS	3600	7800	9660	10100(8)	11800(10)	12900(12)	13900(14)			
54x31.00-26 NHS	3850	4830	5300(8)	6100(8)	6900(10)					
67x34.00-26 NHS	3600	7560	8700	9900(8)	11000(10)	12100(12)	13100(14)			
67x34.00-30 NHS	3840	6660	7660	8660(8)	9660(10)	10600(12)				
VA73x44.00-32 NHS	6600	8660	10600	11600	13000(12)	14200	15300(16)			

NOTE: 1) Figures in parentheses denoted ply rating for which loads and inflations are maximum.

2)

SPEED (MPH)	% CHANGE IN LOAD	CHANGE IN PRESSURE (PSI)
10	+30	0
10 VAR••	+30	+5

•• Variable load is the operation of increasing or decreasing loads. Payload per tire must be a minimum of 80% of Gross Tire Load. Primarily used for Fertilizer Spreaders. (Special Load & Speed Decal for display in truck cab available from your Goodyear representative)
Maximum distance of one mile run while fully loaded.

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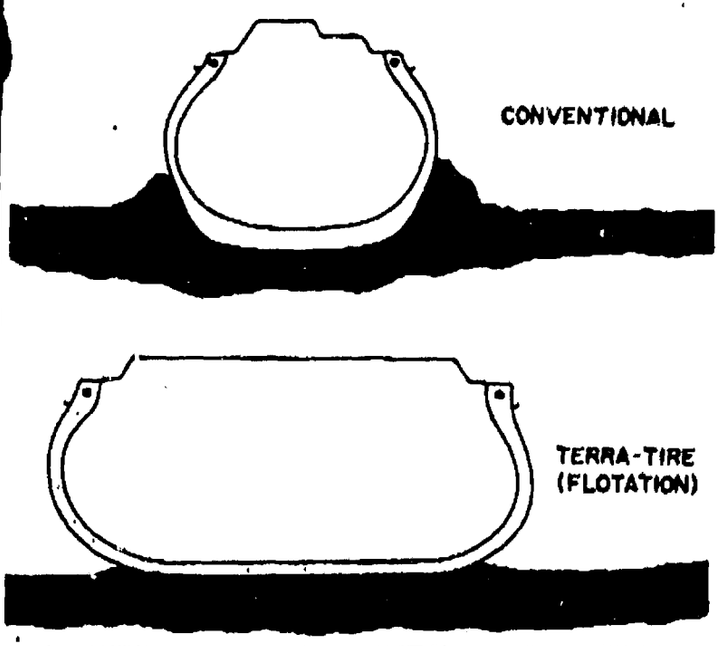
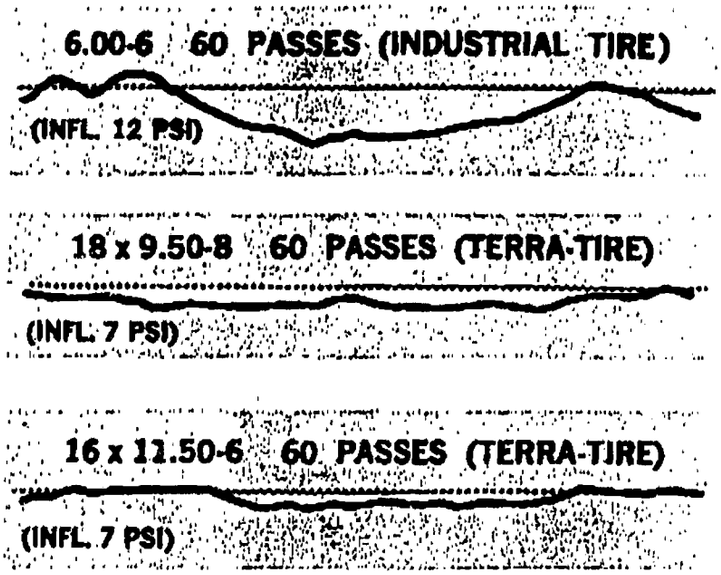
Tire penetration comparison





Rolling resistance

	TERRA-TIRE	Truck Tire	Track
Hard Surface	16	10	85
Sod	24	85	170
Mud	40	130	—
Soft Sand	78	275	—

Rolling resistance is the force required to roll a loaded tire and wheel assembly over a level surface at a constant speed. The rolling resistance listed in the table represents the resistance force for each 1000 pounds of load on the tire.

This force varies in a direct proportion with the resistance to flexing of the tire carcass and inversely with an increase in tire width.

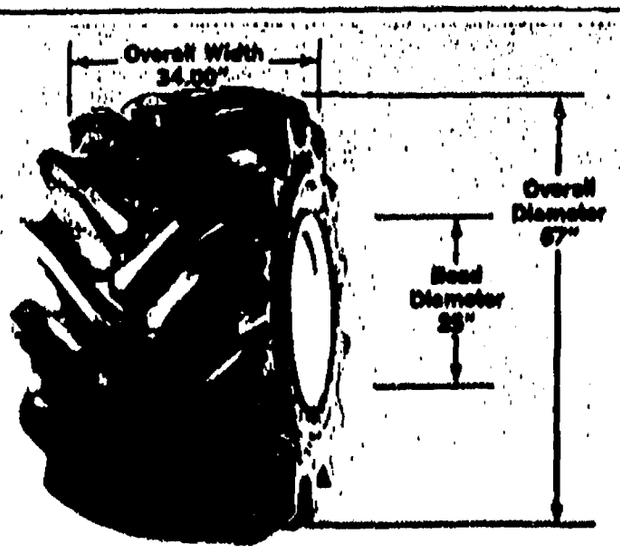
The TERRA-TIRE high flotation tire has lower rolling resistance than the conventional tire.

The rolling resistance values listed in this table are intended only for making a relative comparison between types of tires over various terrain conditions.

Size description

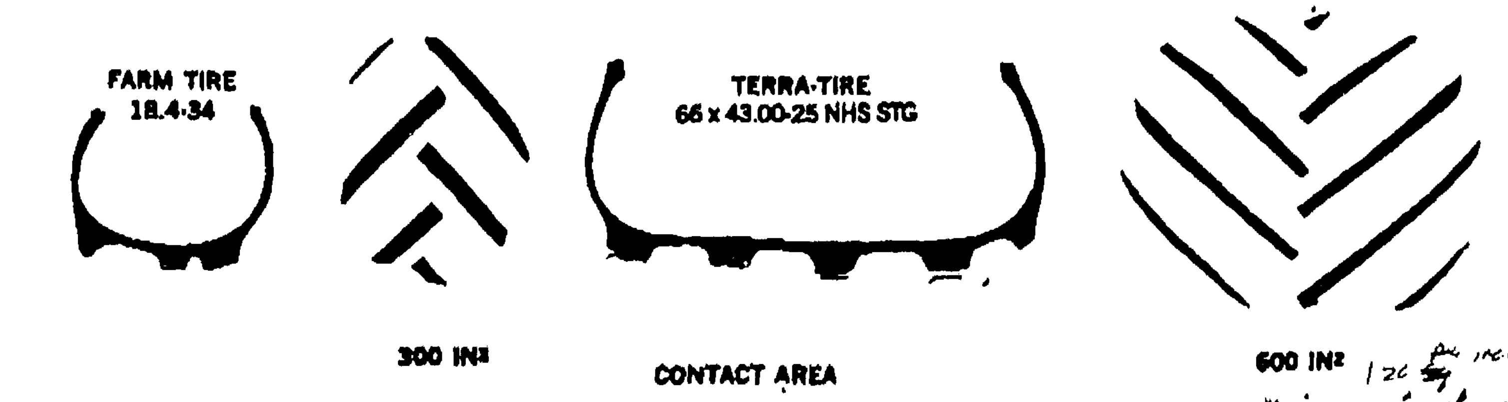
TERRA-TIRE size describes the tire dimensions in order of (1) overall diameter (2) overall width (3) bead diameter.

For example, as illustrated at the right, the 67 x 34.00-25 Custom Flo-Grip TERRA-TIRE has a nominal overall diameter of 67", nominal overall width of 34.00" and nominal bead diameter of 25". Actual inflated tire dimensions are listed in the tire dimension data table pages 11, 13, and 15.



physical characteristics

Tire section & contact area comparison

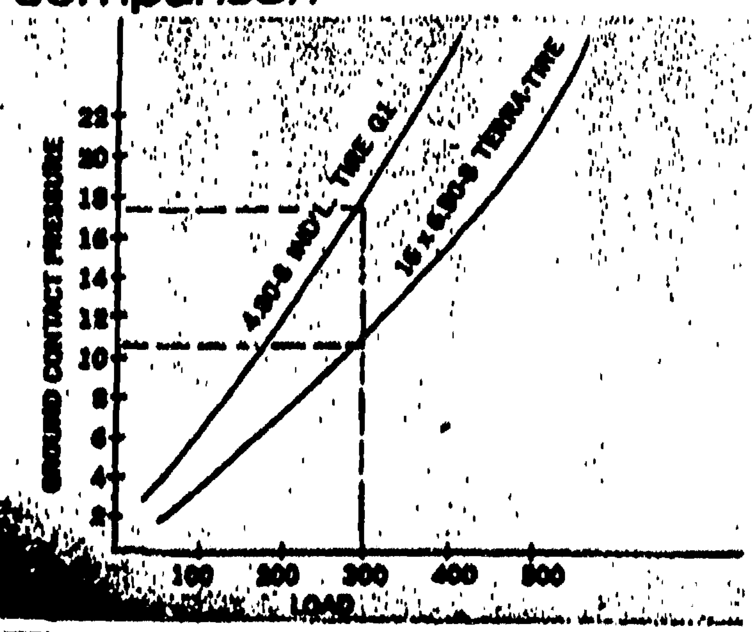


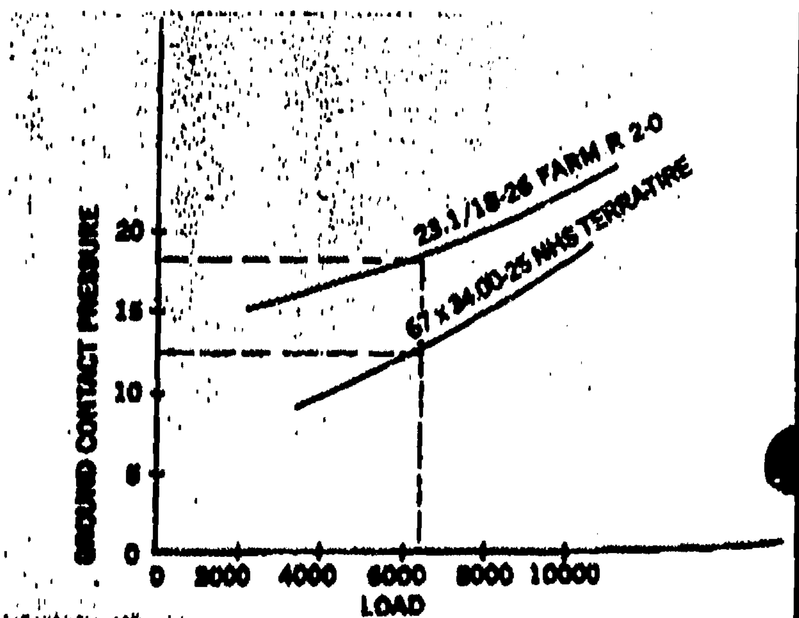
Contact areas (10 MPH Loads)

Tire Size	Flat Plate Area (in.²)	Penetrated		Tire Size	Flat Plate Area (in.²)	Penetrated	
		Depth (in.)	Area (in.²)			Depth (in.)	Area (in.²)
16 x 6.50-8 NHS	30	1	50	31 x 13.50-15 NHS	100	3	240
18 x 6.50-8 NHS	36	1	70	31 x 15.50-15 NHS	130	3	290
18 x 9.50-8 NHS	45	1	80	33 x 12.50-15 NHS	125	3	265
20 x 10.00-8 NHS	52	1	95	36 x 13.50-15 NHS	162	3	360
21 x 11.00-8 NHS	65	1	105	38 x 20.00-16.1 NHS	160	3	400
20 x 8.00-10 NHS	36	1	60	38 x 14.00-20 NHS	130	3	325
22 x 8.00-12 NHS	44	1	80	41 x 14.00-20 NHS	170	3	350
22 x 11.00-8 NHS	50	1	82	48 x 25.00-20 NHS	186	3	520
23 x 9.50-12 NHS	46	2	80	44 x 18.00-20 NHS	213	3	460
23 x 10.50-12 NHS	76	2	115	44 x 41.00-20 NHS	350	3	800
26 x 12.00-12 NHS	110	2	168	48 x 25.00-20 NHS	310	3	630
25 x 7.50-15 NHS	48	2	90	48 x 31.00-20 NHS	380	3	780
25 x 10.50-15 NHS	64	2	120	66 x 43.00-25 NHS	600	3	1290
25 x 12.50-15 NHS	78	2	156	66 x 44.00-25 NHS	620	3	1480
27 x 8.50-15 NHS	60	2	130	67 x 34.00-25 NHS	540	3	1100
27 x 9.50-15 NHS	70	3	140	54 x 31.00-26 NHS	384	3	820
27 x 10.50-15 NHS	80	3	165	67 x 34.00-26 NHS	540	3	1180
29 x 12.50-15 NHS	90	3	215	67 x 34.00-30 NHS	520	3	1070
31 x 12.50-15 NHS	110	3	230	VA73 x 44.00-32 NHS	786	3	1470

Unit ground pressure comparison

$$\frac{\text{Tire Load (lbs.)}}{\text{Contact Area (IN}^2)} = \text{Average Ground Contact Pressure}$$





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introduction to the TERRA-TIRE® flotation tire----tubeless

Description

TERRA-TIRE is a high flotation tire. In comparison with conventional tires, they have a wider cross section, a larger air volume, a more flexible carcass, and operate at lower inflation pressures. This unique design gives them a large "footprint" in contact with the ground and distributes load over a large area at low unit pressure. The net result is a flotation effect for go-anywhere performance—despite terrain, despite load.

Different styles of TERRA-TIRE high flotation tires are available in a variety of sizes for use on all-terrain vehicles. A separate line of estate

® Registered Trademark

TERRA-TIRE low pressure tires is available for golf carts and similar small-sized utility vehicles in a variety of sizes for virtually unlimited application versatility.

All TERRA-TIRE FLOTATION TIRES are of tubeless construction, and all are made with 3-T—(triple-tempered) cord to set the cord at peak strength and resilience. Goodyear's exclusive TUFSYN rubber is used in construction of both tread and sidewall. Tread designs include smooth, rib, and traction-lug types, permitting considerable latitude in matching tire to application.

Advantages

(1) Lower Unit Ground Pressure: The large ground contact area of TERRA-TIRE flotation tires effectively distributes load over a relatively broad area, providing a reduction in unit ground pressure in comparison with conventional tires. On a typical golf cart, for example, unit pressure is only about 5 pounds per square inch. In contrast, the walking pressure of a golfer is on the order of 24 pounds per square inch.

This reduction in gound pressure means less soil compaction, less ground disturbance—on the farm or on the golf course. It also means improved mobility, permitting the TERRA-TIRE to traverse mud or snow or soft sand that would often bog down a conventional tire. And since these tires operate at relatively low inflation pressures they literally envelop rocks, stumps and other obstacles. This go-anywhere capability is as adaptable to farming, logg'ng, and exploration as it is to the golf course.

(2) Improved Shock Absorption: The carcass of a TERRA-TIRE is very flexible. This design characteristic, coupled with low inflation pressures, provides for high level energy absorption. The resulting air-cushion effect means less wear on equipment., reduced fatigue for the operator. In fact, for many applications the TERRA-TIRE low pressure tire, is actually mounted without the use of springs. This offers a significant reduction in initial installation cost.

(3) Increased Pay Load To Vehicle Weight: The enveloping and cushioning effect of the TERRA-TIRE permits both a strength and a weight reduction in vehicle design. The net result in designing a vehicle for a given load capacity is an effective increase in the ratio of pay load to vehicle weight. It is axiomatic that this design capability introduced by TERRA-TIRE also results in a net savings in construction costs.

(4) Reduced Rolling Resistance: Large ground contact area, flexibility of carcass, and low inflation pressure work together to reduce rolling resistance. On sand, for example, a typical coefficient of rolling resistance for a TERRA-TIRE, high flotation tire, is .078, compared with .275 for a truck tire. Golf courses report that carts equipped with TERRA-TIRE tires often provide an extra 9 holes of operation on a single battery charge.

(5) Cost-Saving Replacement of Duals: *One* TERRA-TIRE does the work of *two* conventional tires. The weight of a TERRA-TIRE and rim is less than the weight of the dual wheels and tires it replaces. In addition to this net weight saving, these tires provide improved flotation, yet service and maintenance costs are generally lower.

(6) Increased Ballast Capacity: The large volume principle of the TERRA-TIRE low pressure tire offers an additional advantage where ballast is concerned. The increase in ballast capacity is inherent in the TERRA-TIRE design. This often means a significant cost saving in wheel weights. Savings realized in using liquid versus metal ballast is in the ratio of approximately 4 to 1. In addition, there's a convenience factor, since liquid ballast is so much easier to handle.

(7) Conventional Service and Repair: In spite of the advantages to be realized in the use of TERRA-TIRE, low pressure, low profile tires, this unusual tire requires nothing unusual in the way of service or repair. Conventional maintenance methods are totally applicable.

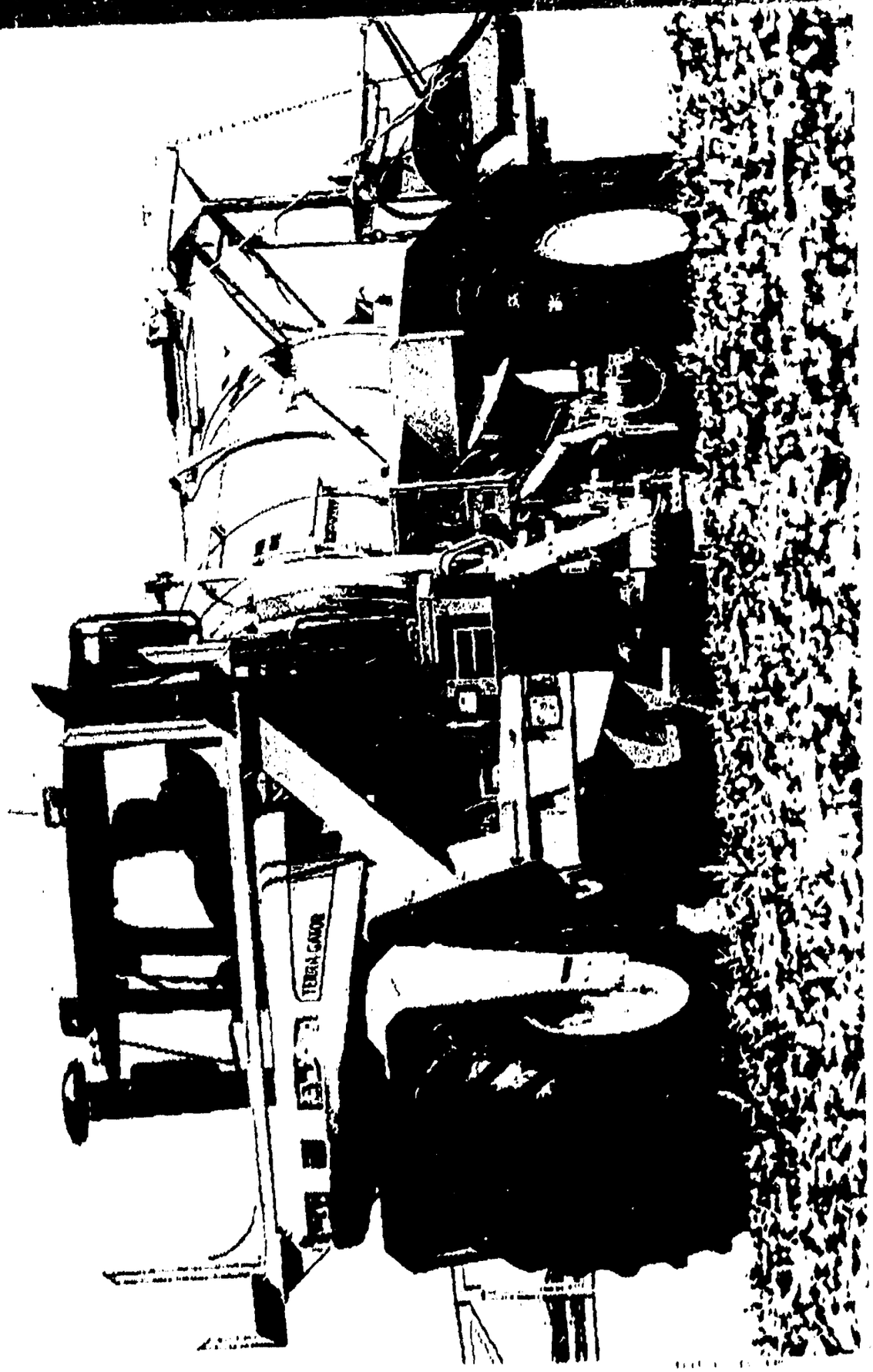
RoGator 854

The Post-Emerge Sprayer By Which Others Are Measured

ag-chem EQUIPMENT CO., INC.

TERRA-GATOR® 810

Featuring TERRA Shift with Select-Shift, automatic shifting between selected gears



Page 18/20
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Sent By: NH HP;
JAN-11-2001 11:03
FROM:7013281642
P18
02-13-01 09:41 TO:ND HOUSE MINORITY

MAXIMUM VEHICLE SPEED

TIRE SIZE	MAXIMUM SPEED
320/90R46	25 MPH (40.2 KPH)
14.9R46	25 MPH (40.2 KPH)
9.5R48	25 MPH (40.2 KPH)

VEHICLE SPEED IN EXCESS OF LISTED SPEEDS CAN CAUSE DAMAGE TO TIRES, RIMS & HYDRAULIC COMPONENTS. FAILURE TO COMPLY MAY RESULT IN PERSONAL INJURY.

232439

IMPORTANT: DO NOT EXCEED MAXIMUM LOAD PER TIRE LISTED

Tire Size	Cold Infl Press +3 -0 psi	MAXIMUM LOAD PER TIRE LISTED			
		TRANSPORT UNLADEN ONLY SMOOTH SURFACES 10 MILES MAX	FIELD ONLY DIMINISHING LOAD RECOMMENDED MAX=		
		32 MPH MAX	18 MPH MAX	18 MPH MAX	
14.9R46	48	9150	9550	10700	
320/90R50	52	8200	9240	10400	
18.4R42	36	10300	10700	12000	
24.5-32 12P	30	11250	11700	13100	
380/90R46	48	9260	10440	11780	

*OPERATING NEAR MAX LOAD MAY RESULT IN RAPID TIRE WEAR.
INCREASED SOIL COMPACTION AND LIMITED MOBILITY
IN SOFT FIELDS.

P/N 260067

FOR TRANSPORTING MATERIALS

Check Daily

MAXIMUM LOAD P...

Tire Size	P.R. (Ply Rating)	Cold Infl Press +3 -0 psi	CONSTANT LOAD		DIMINISHING LOAD		
				Smooth Surface 10 Mi. Dist. Limit	1 Mile Limit @Maximum Load		
			30 mph Max.	30 mph Max.	20 mph Max.	15 mph Max.	10 mph Max.
FRONT 66 X 43.00-25	8, 10 8, 10 8 10 10	15 20 25 25 30	7,400 8,600 8,600 9,900 9,900	8,000 10,140 12,000* 12,000* 12,000*	8,760 11,100 12,000* 12,000* 12,000*	9,930 12,000* 12,000* 12,000* 12,000*	10,800 12,000* 12,000* 12,000* 12,000*
REAR 66 X 43.00-25	10, 16 10, 16 10 16 16	20 25 30 30 35	8,800 9,900 9,900 11,000 12,300	10,140 12,060 13,560 13,560 15,070	11,100 13,200 14,850 14,850 16,000*	12,580 14,960 16,000* 16,000* 16,000*	13,690 16,000* 16,000* 16,000* 16,000*
REAR 68 X 50.00-32	16	20 25 30 35	8,800 9,900 11,000 12,300	9,600 11,400 13,660 15,200	11,100 13,200 14,850 16,000*	12,580 14,960 16,000* 16,000*	13,690 16,000* 16,000* 16,000*

*Axle Limited Load

P/N 238444

RoGator POST-EMERGE APPLICATORS

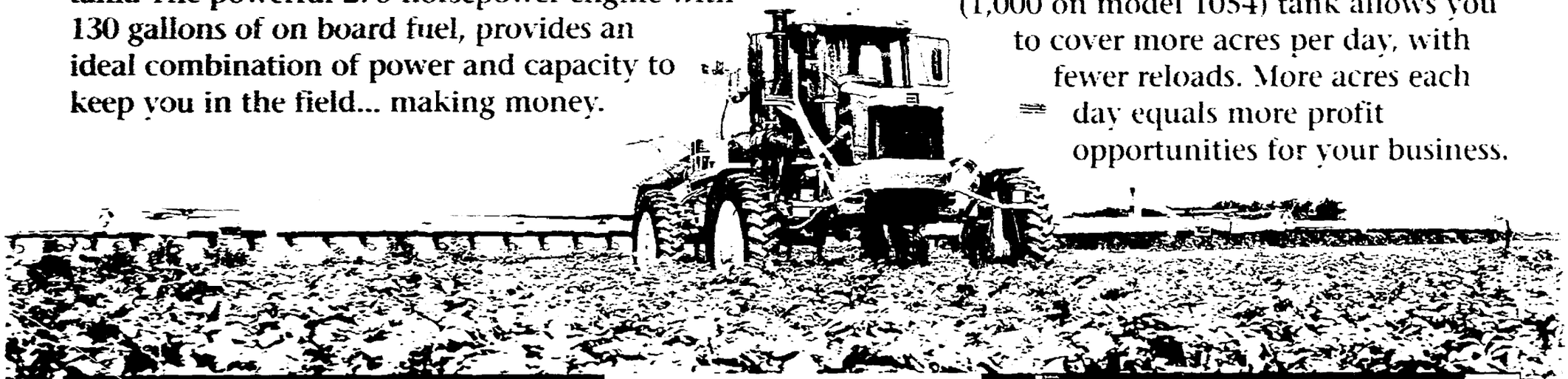
eg chem

RoGator 1254/1054 SETTING NEW STANDARDS

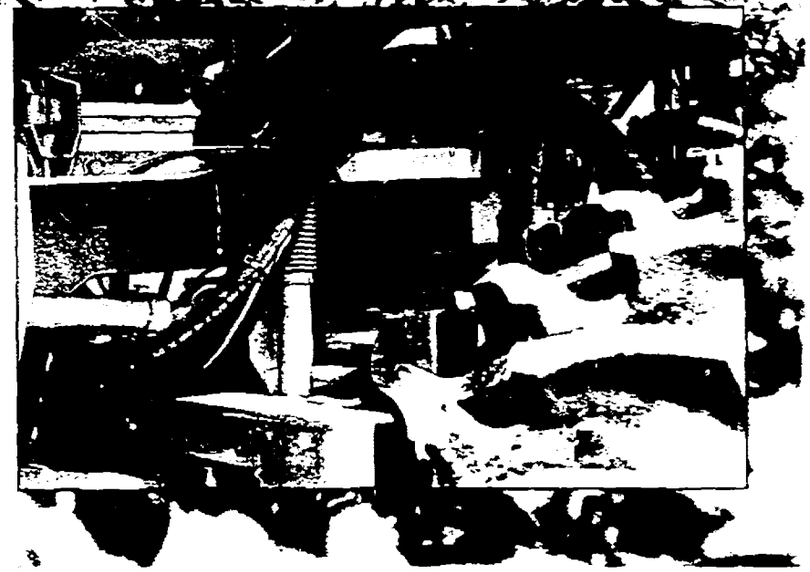
RoGator has been the leader in the post-emerge application business since its introduction in 1993. Now, Ag-Chem is raising the bar by introducing the next generation of productivity... a new standard of size and performance. The RoGator 1254 with its 1,200 gallon product tank offers the industry's largest available standard tank. The powerful 275 horsepower engine with 130 gallons of on board fuel, provides an ideal combination of power and capacity to keep you in the field... making money.

RoGator's proven flex-frame™ offers machine durability and the ergonomically designed cab provides a comfortable environment for longer operating hours.

The state-of-the-art cab and a field duty chassis are teamed with proven systems for maximum performance. The large capacity 1200 gallon (1,000 on model 1054) tank allows you to cover more acres per day, with fewer reloads. More acres each day equals more profit opportunities for your business.



The new operator's station features in-dash electronic displays, "joystick" control and a convenient right hand console. Optional FALCON™ Control System provides map based application capability (left). Ride enhancing features include air spring, gas-charged shocks and rear axle anti-roll sway bar, all helping to smooth the ride in rough terrain (right).



OUTSTANDING NEW D GN COUPLED WITH PROVEN PERFO NCE

All new cab, with large glass expanse provides 360° view, with sight lines to front tires and boom.

Spacious air-shock seat with fore/aft isolators, reclining lumbar back and thigh adjustment provides maximum comfort during long operating days.

One piece stylized, tilt-up hood provides easy access to the 275 hp Cummins electronically controlled diesel engine.

Optional TALON® system (pictured) with shuttle product tanks, frees main tank for carrier only, reducing in-field rinse.

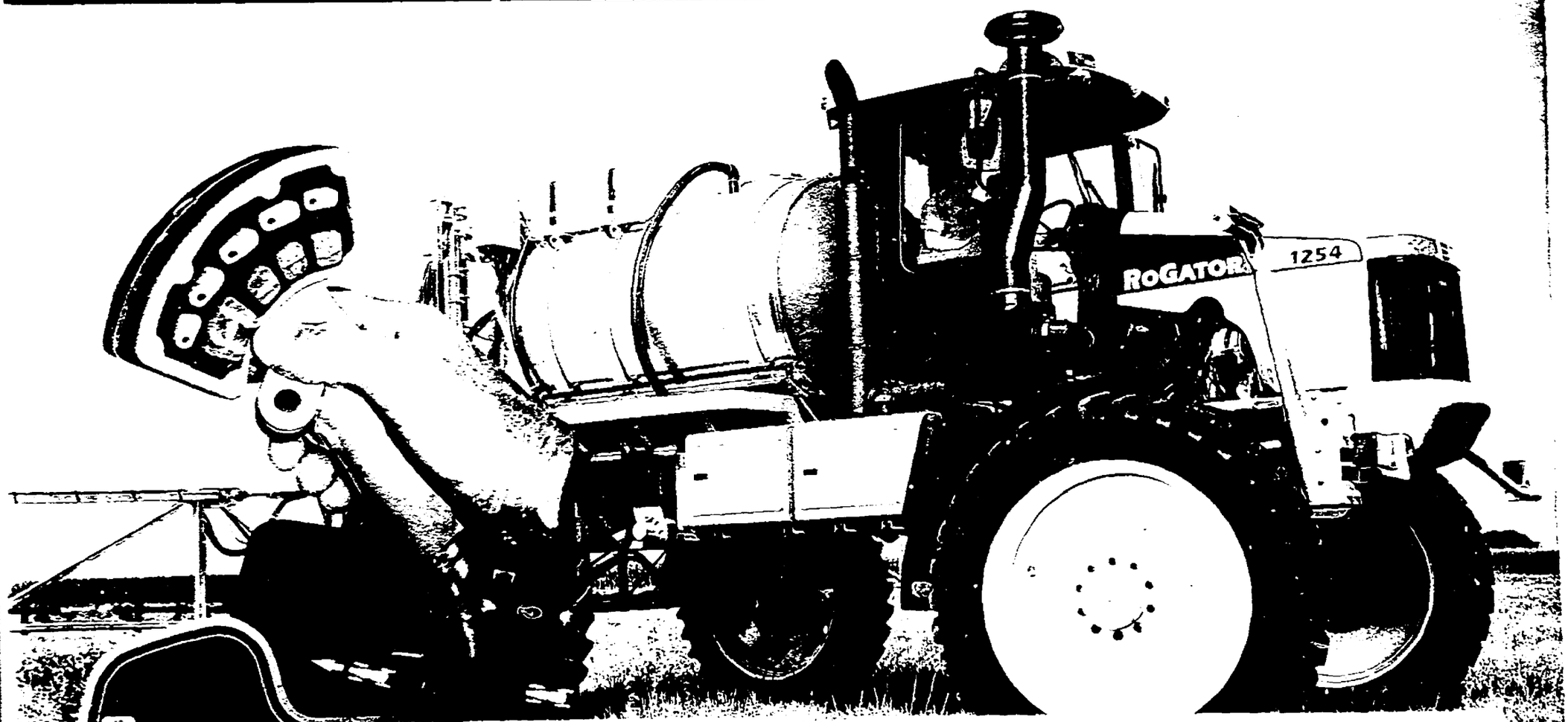
Elliptical stainless steel main tank, (up to 1,200 gallon capacity) keeps you in the field longer. Large, 100 gallon, poly flush/rinse tank.

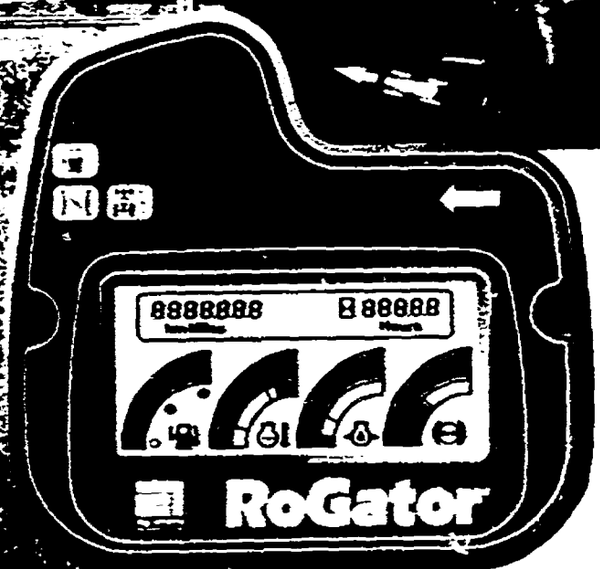
Optional AirTec™ (pictured) air-assist boom provides a micron sized spray mist surrounded by a jet-air flow for better canopy penetration and under leaf coverage.

Air spring suspension with gas charged shocks and anti-roll sway bar on rear axle smooths the ride in rough terrain.

Ergonomic operator's station features electronic display panels and multi-function hydrostatic "joystick".

RoGator 1254/1054





The cab features dual Electronic Instrument Panels (EIP) displaying over 35 functions including fluid levels, speed and other operating conditions. The right side display, which is programmable, offers 11 scrollable functions.

Chassis Features

- Durable, bolted "C" channel frame construction flexes over uneven terrain for maximum traction, a smoother ride and longer machine life
- Multi-speed radial piston wheel motors provide efficient transfer of power and a wide range of field and transport speeds
- Full time, hydrostatic, four-wheel drive
- Adjustable (in cab) wheel track width from 120-152" with 48" of ground clearance

SETTING NEW STAND. .DS OF PRODUCTIVITY AND PERFOR. .NCE

275 horsepower diesel engine

The 1000 series RoGators are powered by a turbocharged, aftercooled, Cummins 275 horsepower engine, which is EPA off-road certified. This six cylinder engine has the torque to pull you through tough terrain and features simplified maintenance and serviceability.

Sure footed, full time, hydrostatic, four-wheel drive provides superior performance and smooth acceleration in varied field conditions with direct drive hydrostatic wheel motors. Four speed drive selection provides a wide choice of traction options for field and road. RoGator's high displacement wheel motor pistons provide torque, power and durability.

Adjustable row spacing from the cab

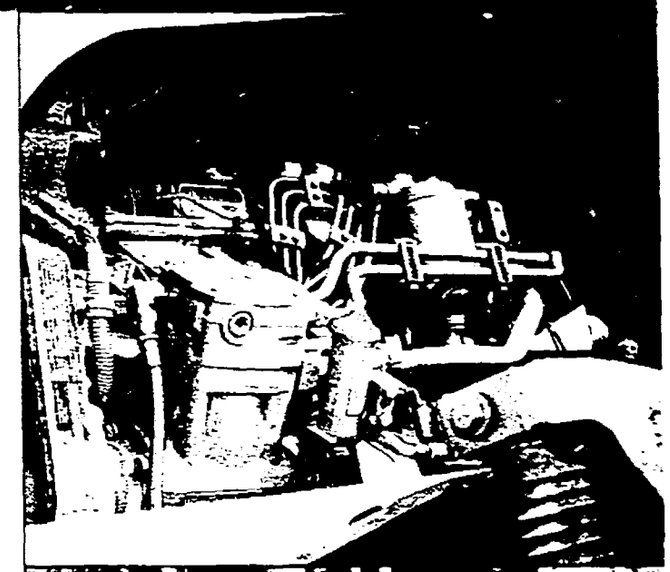
The 1000 series RoGators provide an adjustable track width from 120" to 152". The standard automatic tie rod adjustment adjusts wheel track for an infinite number of row widths, all without leaving the cab.

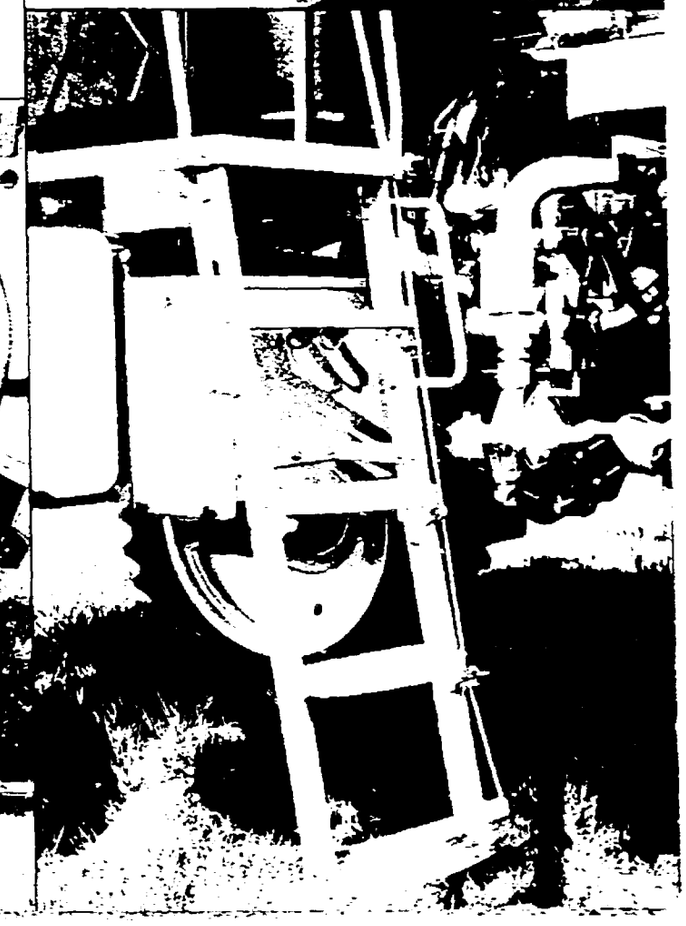
Hydrostatic steering built for the field

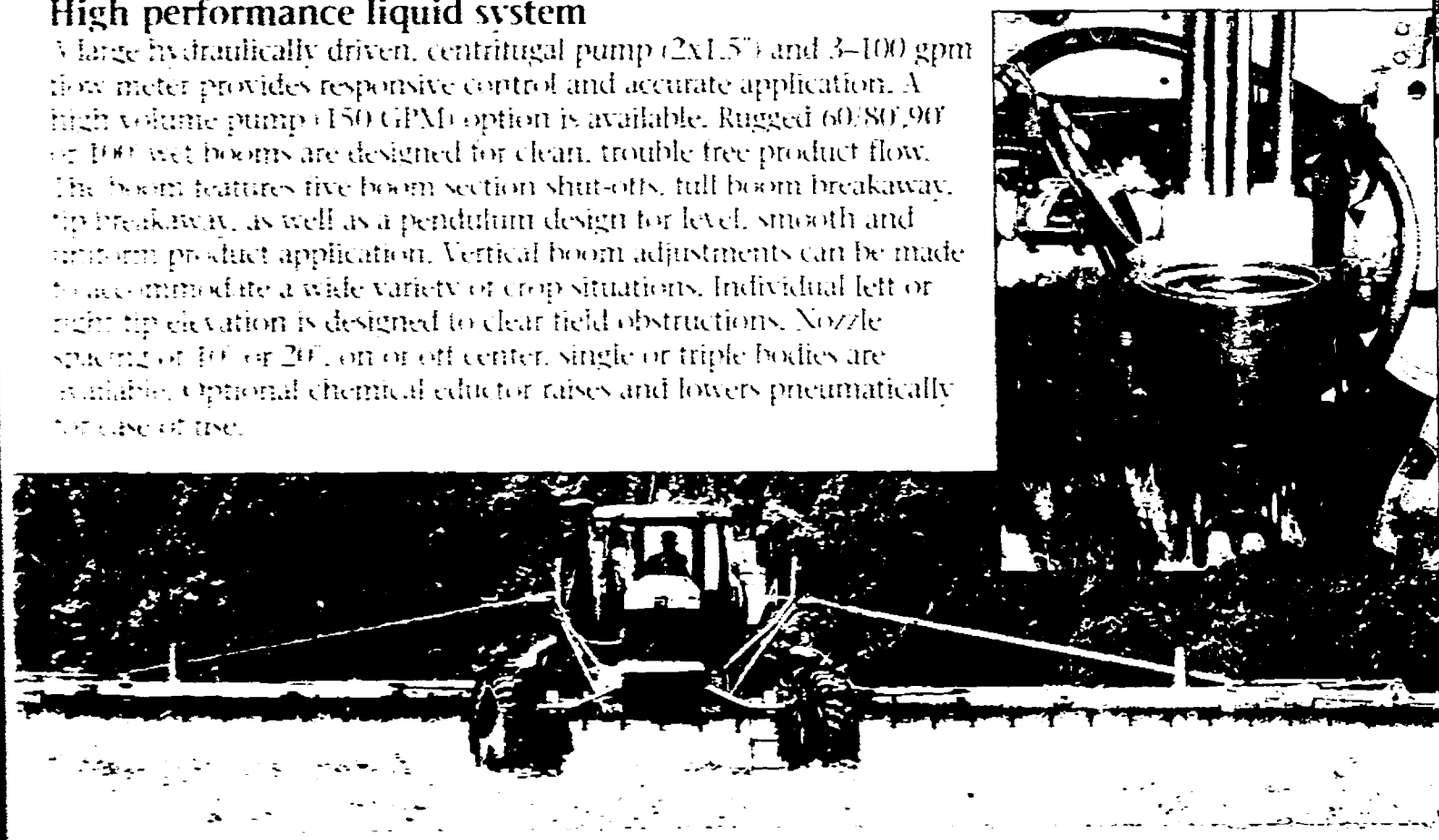
Engine mounted hydraulic pump provides smooth full power, proportional front wheel steering. Non-kickback steering lets you operate in challenging field conditions.

High performance liquid system

A large hydraulically driven, centrifugal pump (2x1.5") and 3–100 gpm flow meter provides responsive control and accurate application. A high volume pump (150 GPM) option is available. Rugged 60/80/90' or 100' wet booms are designed for clean, trouble free product flow. The boom features five boom section shut-offs, full boom breakaway, tip breakaway, as well as a pendulum design for level, smooth and uniform product application. Vertical boom adjustments can be made to accommodate a wide variety of crop situations. Individual left or right tip elevation is designed to clear field obstructions. Nozzle spacing of 10" or 20", on or off center, single or triple bodies are available. Optional chemical eductor raises and lowers pneumatically for ease of use.



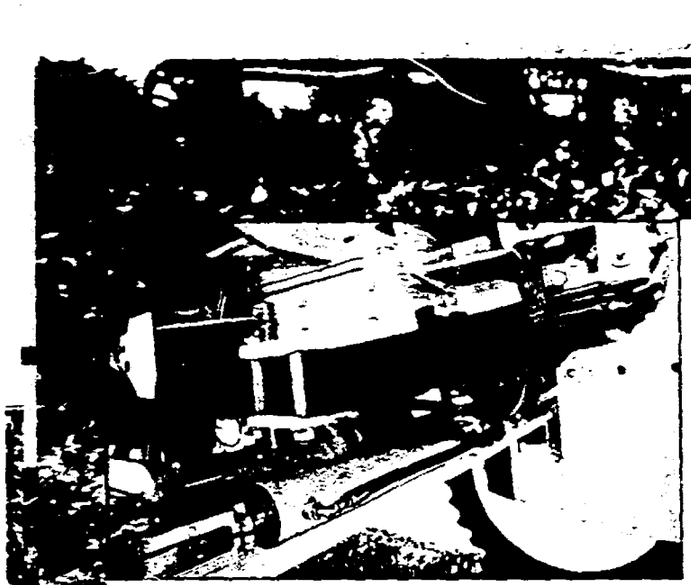


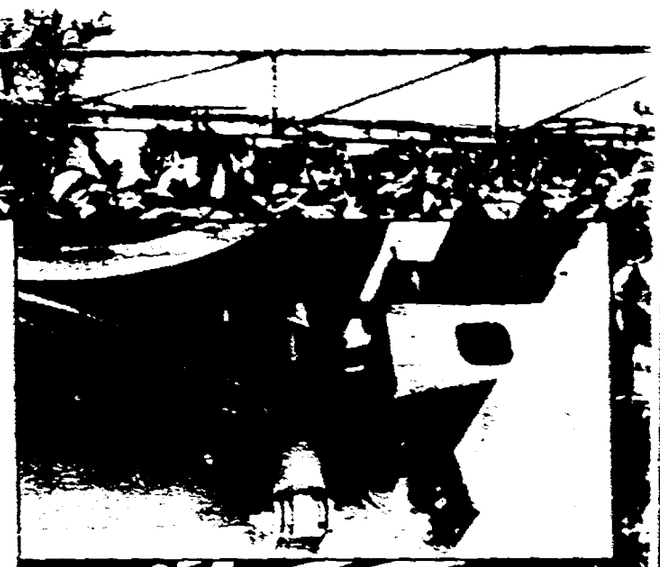


RoGator 854 THE POST-EMERGE LEADER

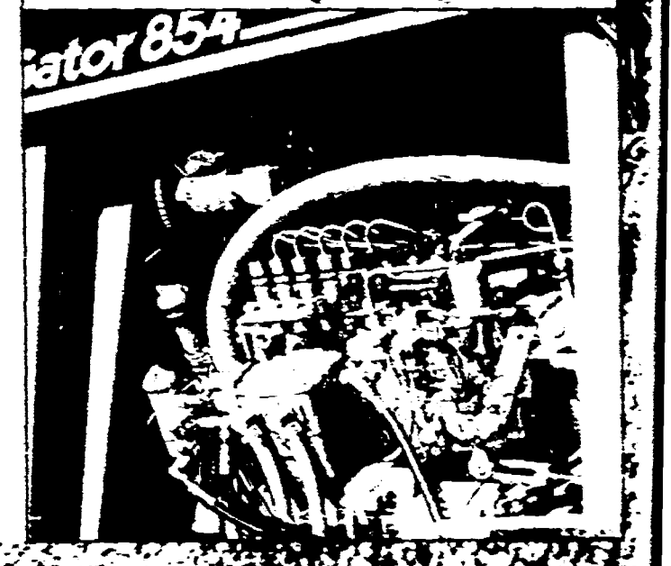
Chassis Features

- Cummins 200 horsepower diesel, EPA off-road certified engine provides exceptional field performance
- Radial piston wheel motors provide the most efficient transfer of power to the wheel and the best field speeds
- Adjustable wheel track widths of 120-152" with 48" of ground clearance
- Smooth full time four-wheel hydrostatic drive • Fast field and travel speeds





RoGator 854 is built tough to meet the challenges of both pre-emerge and post-emerge conditions. With a balanced front to rear weight distribution the RoGator provides good machine stability and increased maneuverability. The 854 features a bolted "C" section flex-frame™ for maximum flexibility, strength and durability. The variable rate leaf spring suspension, gas-charged shocks and Airide™ cab maintain a comfortable ride with varying load and terrain. RoGator 854 provides an unbeatable combination of features, options, performance, high trade-in value and overall operating efficiency. There is simply no other post-emerge applicator like the RoGator.



200 horsepower diesel engine

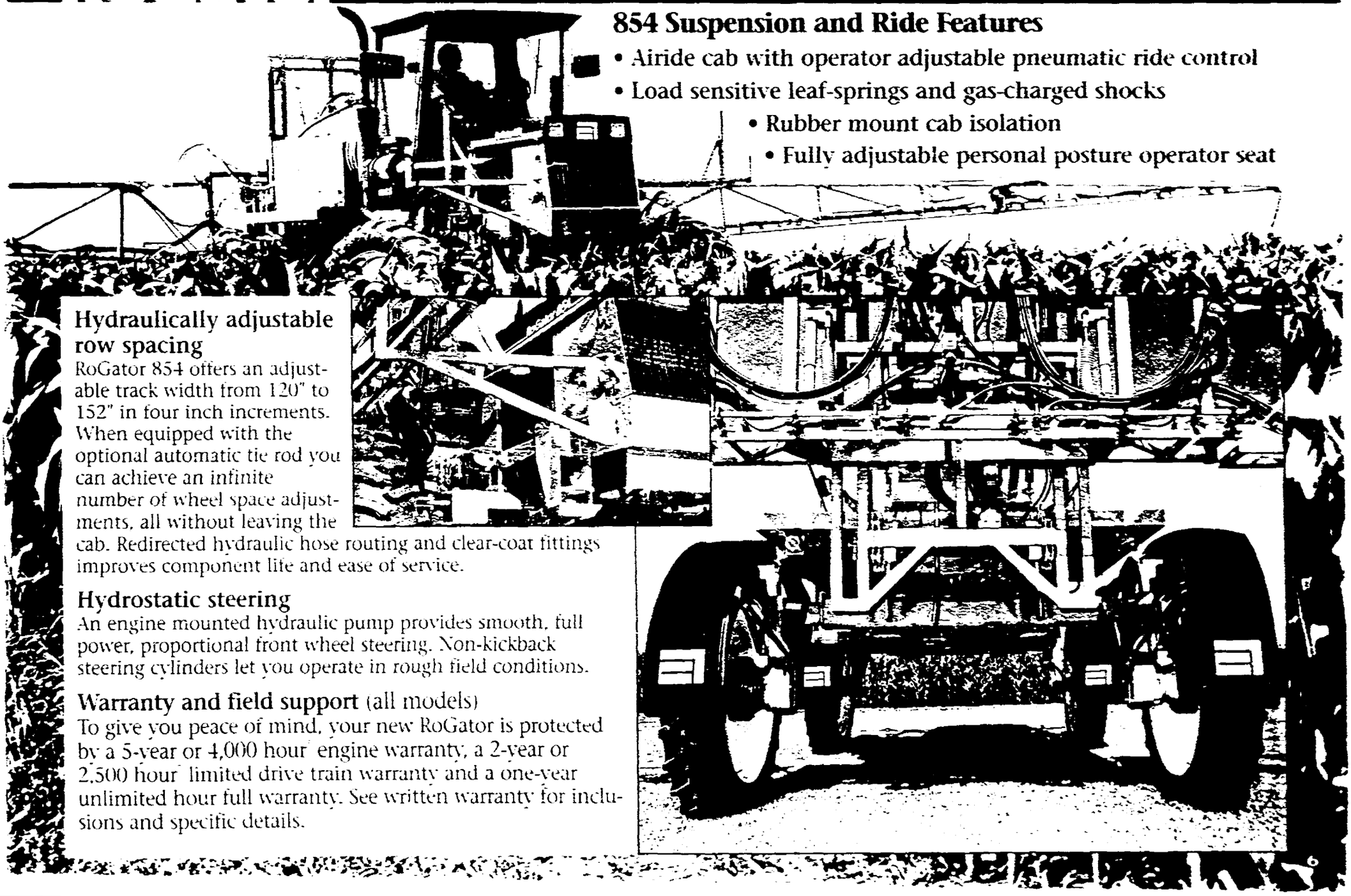
RoGator 854 is powered by a turbocharged Cummins 200 hp six cylinder diesel engine. The combination of performance, fuel economy and capacity of the 90 gallon fuel tank, enables you to stay in the field longer. The EPA off-road certified, Cummins 6BTA has many innovative design features for simplified maintenance and serviceability.

Full time four-wheel drive provides superior, sure footed performance in challenging field conditions. Acceleration is smooth and steady with direct drive hydrostatic wheel motors. Four speed ranges provide a wide choice of operating options for field and roading.

High displacement 12 piston, 5250 psi wheel motors increase torque, power and durability. The standard 14.9/R46 radial tires give the RoGator 48 inches of crop ground clearance.

High Clearance and the Performance Needed to Meet Tough Demands

RoGator



854 Suspension and Ride Features

- Airide cab with operator adjustable pneumatic ride control
- Load sensitive leaf-springs and gas-charged shocks
- Rubber mount cab isolation
- Fully adjustable personal posture operator seat

Hydraulically adjustable row spacing

RoGator 854 offers an adjustable track width from 120" to 152" in four inch increments. When equipped with the optional automatic tie rod you can achieve an infinite number of wheel space adjustments, all without leaving the cab. Redirected hydraulic hose routing and clear-coat fittings improves component life and ease of service.

Hydrostatic steering

An engine mounted hydraulic pump provides smooth, full power, proportional front wheel steering. Non-kickback steering cylinders let you operate in rough field conditions.

Warranty and field support (all models)

To give you peace of mind, your new RoGator is protected by a 5-year or 4,000 hour engine warranty, a 2-year or 2,500 hour limited drive train warranty and a one-year unlimited hour full warranty. See written warranty for inclusions and specific details.

RoG tor 854

Liquid System Features

- 800 gallon elliptical polyethylene or optional stainless steel tank with anti-splash baffles and double tapered sump, 55-gallon fluid flush tank rinse
- Boom options include: 60', 60'/80', 90' or 100' self-leveling boom
- Computerized spray controller with ground speed radar for accuracy
- Other options include: 36 gallon foam marker, stainless steel chemical eductor, pressure washer and personal wash tank

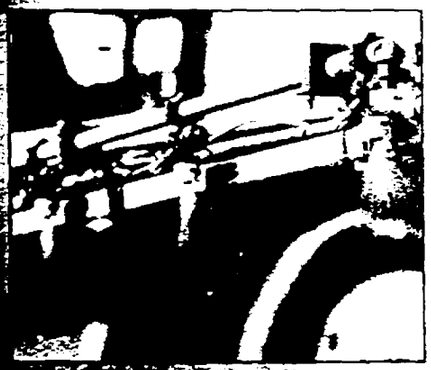
Liquid System Components to Make the Most of Long Application Days

[illegible] controlled for accuracy

[illegible] 854 control system includes a Raven™ monitor/controller which utilizes radar for accurate application [illegible] total application area and other application information is quickly accessed from the in-cab monitor. The RoG[illegible] [illegible] pressure throttling system which can be operated from the cab.

[illegible]igh performance liquid system

The large hydraulically driven, centrifugal pump (2x1.5") and 3–100 GPM flow meter provides responsive control and accurate application. A high volume pump (150 GPM) option is available. The rugged, wet boom is designed for clean, trouble free product flow. It features full boom breakaway, tip breakaway protection and pendulum design for smooth/uniform product application. Vertical boom adjustments can be made from a minimum height of 24" to a maximum height of 76" which will accommodate nearly any crop situation. Booms can be equipped with up to five section shut-offs and feature individual left or right tip elevation for clearing field obstructions. Nozzle spacing of 10" or 20", on or off center, single or triple [illegible] bodies are available. Boom options include 60', 60/80', 90' or 100'. RoGator 854's center pivoting boom provides a smooth riding boom for uniform application.



800 gallon tank lets you run longer between reloads

Available in either poly or optional stainless steel, these tanks are elliptically shaped giving you a low center of gravity and good operator visibility. They have no square corners and feature a double tapered sump with a single suction point for complete tank drain and minimal pump cavitation. Stainless steel tank fittings and a tank shut-off valve provide protection in the event of a system leak.

High output pump

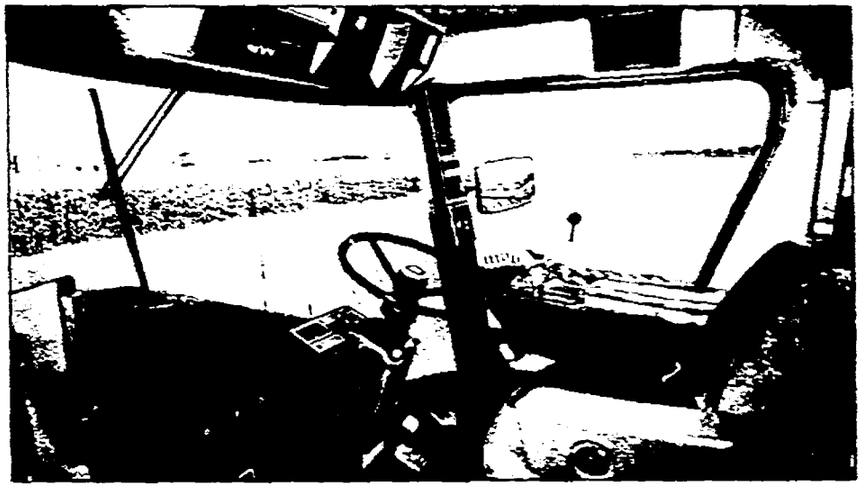
The high efficiency centrifugal pump reduces reload times, which allows more time for spraying. This pump delivers a wide range of output and is designed for year round functionality. An optional stainless steel chemical eductor ensures proper chemical induction and retracts up and out of the way when not in use. A 36 gallon stainless steel, air pressurized foam marker with individual left and right boom shut-off clearly marks swath widths.

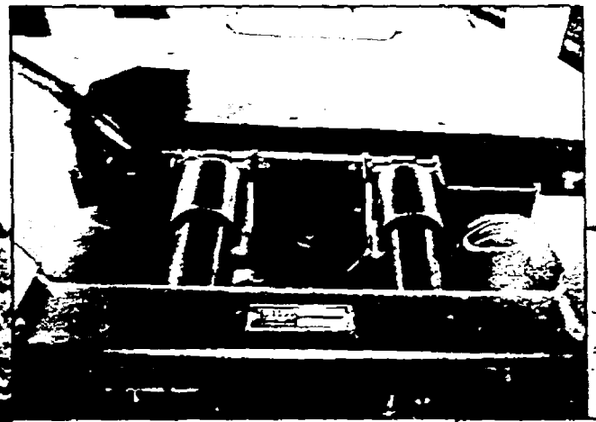
The optional stainless steel chemical eductor is mounted with spring assist linkage to retract up and out of the way when not in use

RoGator 854

A cab designed for operator efficiency

RoGator 854's spacious cab features a curved panoramic front window and large glass area offers a clear view of the front tires, boom and crop. All system and machine controls are conveniently located to the right of the operator for quick easy access. The right-hand console is mounted to move with the operator's seat, keeping system switches at your fingertips. The cab features operator adjustable, tilt/telescoping steering wheel, personal posture seat for optimum comfort/fit and the Airide cab adjusts for ride control. Air conditioning, digital tuning AM/FM radio and cool-ray tinted glass increase operator comfort and efficiency.

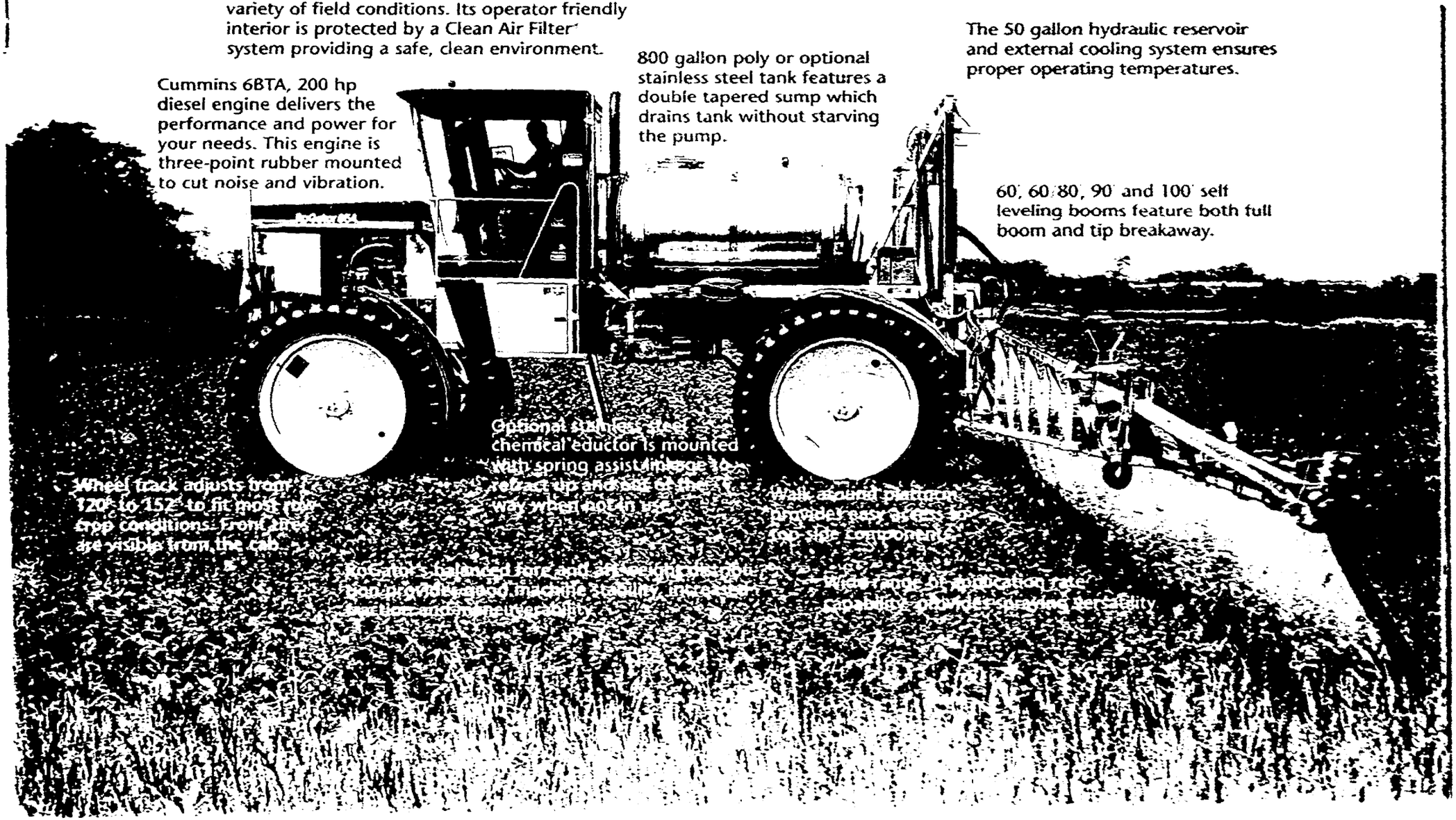




Ag-Chem service support

Factory direct service is only a toll-free phone call away. Millions of dollars in parts inventory at each of our 21 locations throughout North America. Factory trained technicians provide service and support to keep you going during the condensed application season.

Features From Top to Bottom to Fit Your Needs



Airide cab provides operators adjustable pneumatic ride control which smooths the ride in a variety of field conditions. Its operator friendly interior is protected by a Clean Air Filter system providing a safe, clean environment.

Cummins 6BTA, 200 hp diesel engine delivers the performance and power for your needs. This engine is three-point rubber mounted to cut noise and vibration.

800 gallon poly or optional stainless steel tank features a double tapered sump which drains tank without starving the pump.

The 50 gallon hydraulic reservoir and external cooling system ensures proper operating temperatures.

60', 60/80, 90' and 100' self leveling booms feature both full boom and tip breakaway.

Optional stainless steel chemical eductor is mounted with spring assist (page 16) to retract up and out of the way when not in use.

Wheel track adjusts from 72" to 152" to fit most row crop conditions. Front tires are visible from the cab.

RoGator's balanced fore and aft weight distribution provides good machine stability, increased traction and maneuverability.

Walk around platform provides easy access for top side components.

Wide range of application rate capability provides increased versatility.

RoGator 1254/1054/854 ALL STEER

OPTIMUM MANEUVERABILITY AND MINIMUM TURNING RADIUS

Maneuverability in the field is critical in order to cover maximum acreage. ALL STEER™ computer controlled, coordinated four-wheel steering provides the 854 and 1000 series RoGators with exceptional maneuverability.

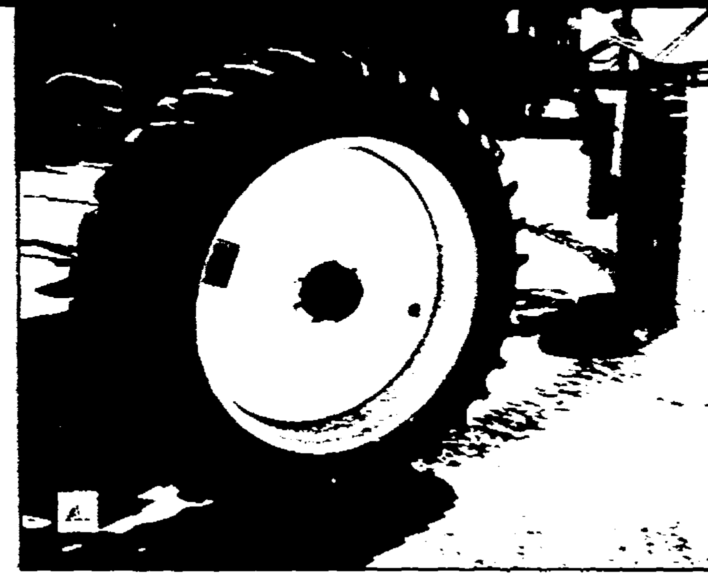
In coordinated steering mode, wheels track each other during turns. This feature leaves two wheel tracks rather than four, reducing soil disturbance and crop flattening.

In fields with no end rows, ALL STEER provides the operator flexibility to make an economical and efficient turn every time. The ability to make virtual "hairpin turns" gets the RoGator back into the rows faster ensuring more applied acres each day.

ALL STEER's 11.5' turning radius provides the RoGator with the industry's tightest turning radius – 56% tighter than our conventional steering (26' radius).

Uneven terrain can also be a critical factor in field maneuverability. This challenge is met with "Crab Steering," the ability to shift RoGator's wheelbase laterally. This feature can be used on hillsides to compensate for side sloping field terrain.

ALL STEER engagement and disengagement is accomplished by a simple floor switch. Switch on at row ends for a tight four-wheel turn. Switch off to automatically return the rear wheels to the centered position.



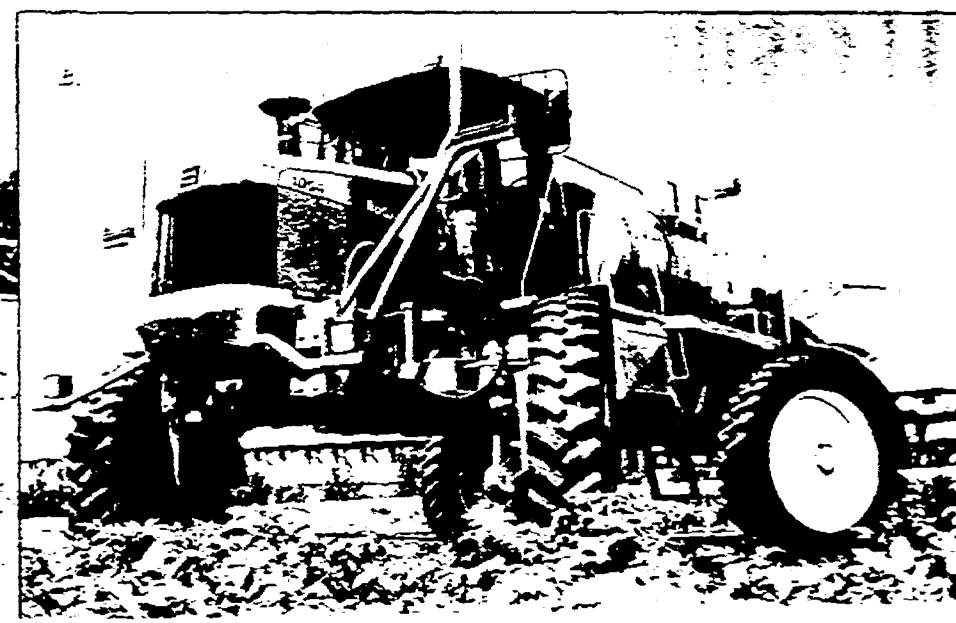
A.

Photos (clockwise from above):

A. Wheels track each other in coordinated steer mode creating only one pair of track paths (above)

B. Flexible hydraulics allow for powerful control of steering options. Automatic [illegible] provides an infinite number of wheel width adjustments from 120" to 152". ALL STEER is available on the RoGator 854 (left) and the 1000 series (1054 ARTEC TALON pictured).

C. Wheel tracks of ALL STEER (left) illustrate the advantage of 56% reduction in turning radius over two-wheel steer (right).



B.

RoGator 1054/854 TALON

TALON is a revolutionary comprehensive closed transfer product delivery system, consisting of three delivery components: the computer controller, the direct chemical delivery system and the dedicated/reusable chemical shuttle tanks.

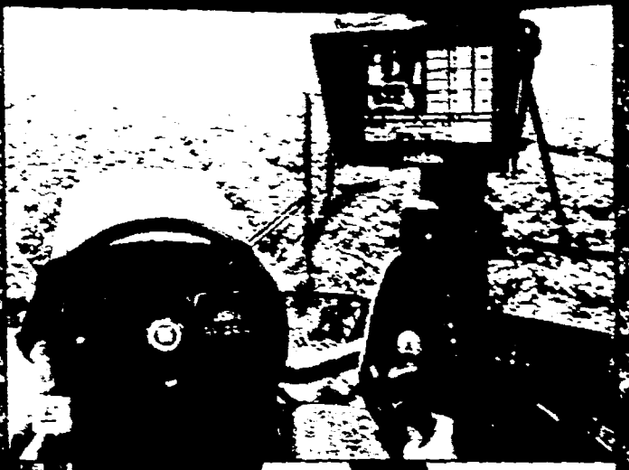
The system is governed by the FALCON Controller. FALCON is a distributed network control system, providing a graphical user interface. The controller provides operators a wide range of adjustment options in volume, flow and mix rates.

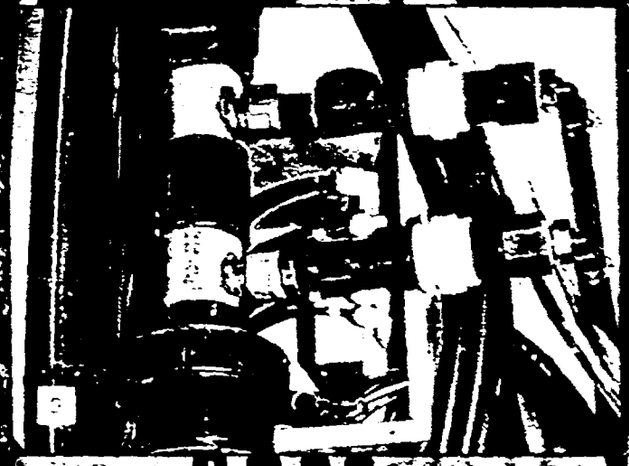
FALCON offers variable rate application of injected products based on soil maps or weed pressure surveys. Loop data is graphically and numerically displayed for accurate representation of the control system.

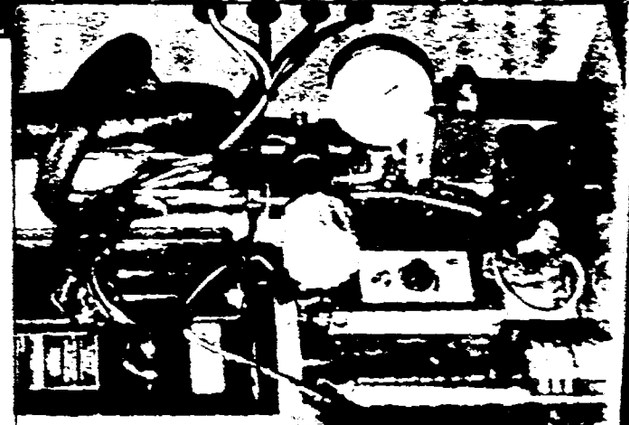
FALCON provides multiple boom section controls (up to five plus two fence row nozzles). Gator Stop™ air controlled valves provide instantaneous on and off control of product at the nozzles. The boom remains fully charged at normal operating pressure allowing all nozzles across the boom to discharge and stop simultaneously.

TALON allows the delivery of products (chemicals) from bulk tank to the field without tank mixing or infield tank rinsing. The 20 and 40 gallon (75/150 lock no-spill couplings and feature a double tapered sump for complete drainage. The closed transfer system allows for dedicated tank use and minimizes contact with concentrated chemicals.

In addition to the controller and tank system, TALON includes an advanced direct injection sub-system. This injection module utilizes a triple diaphragm hydrocell pump to provide a less pulsational flow and an accurate in-line flow meter (choices of gear and magnetic flow meters) for real time dynamic flow control. Product flow is effected less by chemical viscosity with TALON than any other system. Product delivery can be constant or variable rate. Variable rate delivery is based on mapping input data. The addition of a GPS navigation system gives TALON site specific accuracy.

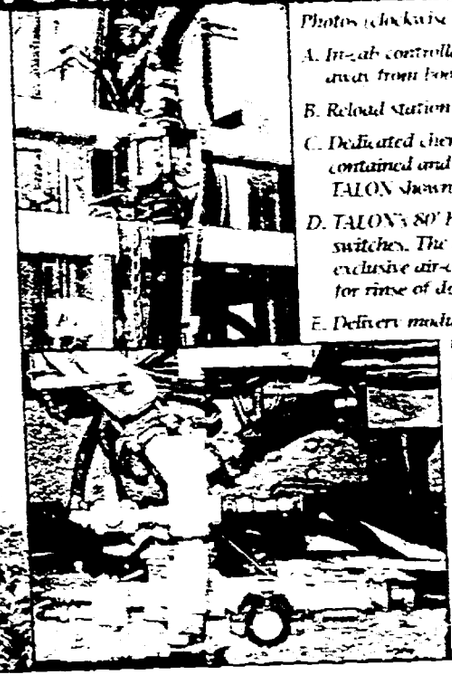






TOTAL APPLICATION L(ISTICS OPERATING NETWORK™

TALC Y



Photos (clockwise from top):

A. In-cab controlled, electric ball valve boom selects shut-off keeps product away from boom in event of pressure loss.

B. Reload station and chemical tanks includes a dry-lock no-spill connector.

C. Dedicated chemical tanks, available in 20 or 40 gallons, tanks are self-contained and simply lift out of their seated position (1054 AIRTEC TALON shown).

D. TALON's 80' boom can be controlled with up to five section control switches. The FALCON on board controller is utilized to activate the exclusive air-controlled Gator-Stop valves. Modified rinse system allows for rinse of delivery module and boom when switching product.

E. Delivery module consists of injection pump, flowmeter, electric motor and motor drive in one self-contained unit.

F. Gator-Stop pneumatic valves allow booms to remain full charged, providing instantaneous stop and start of product flow.

G. Introduction of the chemical at the point of delivery provides a steady, accurate product flow. Applicators exclusive injection points introduce product into the center of the flow. Electronic control solenoids (background) panel removed) actuate airflow for boom sections and control of exclusive Gator-Stop valves.

H. Cab controls for TALON, include the FALCON keypad and graphical display.

RoGator 854/1054 AIRTEC® Boom

AIRTEC's 90–foot air-assisted boom is powered by the industry's largest fan (with air velocity of 0–152 mph) to open the crop canopy and maximize insecticide and fungicide coverage on more plant surfaces. In the 1994 USDA cotton crop studies at Stoneville, Mississippi, AIRTEC received top marks for under leaf coverage. This is achieved by atomizing the spray solution twice; once through the nozzle and secondly at the venturi cone to produce micron sized droplets.

The AIRTEC boom can be folded with the fan running. This provides added efficiency in tight maneuvering situations. Safety breakaway sections of 12.5' on each boom side provide added security against potential boom damage.

Air-assisted technology often allows for the lowest possible label rate of application per acre. The combination of the large 1000 (800 on 854) gallon AIRTEC tank and air technology allows AIRTEC to cover over 330 acres (@ 3 gal. per acre) without reloading the tank.

Photos (clockwise from center):

A. The 90' self contained aluminum boom provides a wide swath of coverage. [illegible] adjustment heights, long 12.5' breakaway boom sections and the ability to fold the boom with the fan running make the AIRTEC boom a versatile tool.

B. Rotation of the triple nozzle body allows for selection of spray tips. Operator can select conventional tips for regular spraying or hose connection couples to air assist venturi cone for air assisted spraying.

[illegible] The venturi cone atomizes a fine mist of liquid that is surrounded by a [illegible] of air creating a cloud of product to [illegible] the crop canopy.

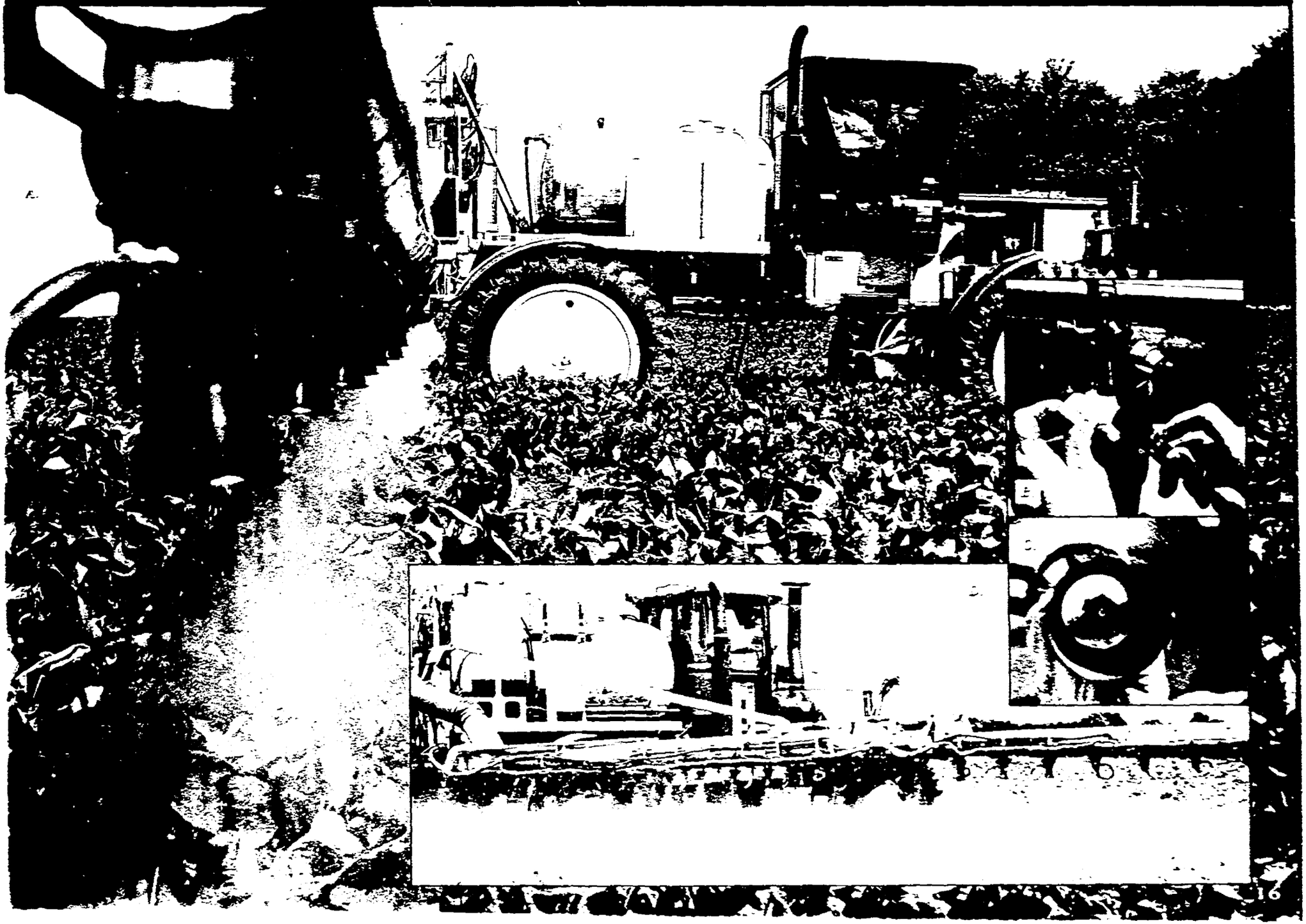
D. The RoGator 854/1054 AIRTEC [illegible] or traditional spray tips. 1054 pictured.

E. Convenient [illegible] controls allow for [illegible] of fan speed. 854 [illegible]

F. Electric over air activated butterfly boom valve.

G. The fan system includes the industry's largest [illegible]

THE INDUSTRY'S LARGEST FAN PROVIDES HIGH VOLUME FOR BETTER LEAF COVERAGE



DIMENSIONS

THE POST-EMERGE SPRAYER BY WHICH OTHERS ARE MEASURED

854

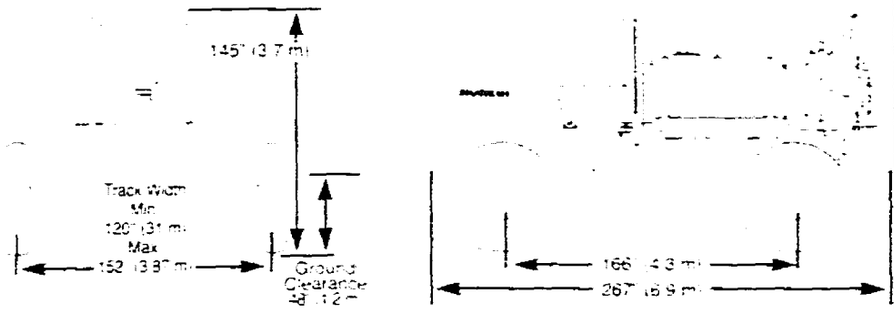
Vehicle Travel Speeds *

Range	Speed	
4	32 mph	52 kph
3	19 mph	30 kph
2	14 mph	22 kph
1	11 mph	18 kph

* Vehicle speeds are theoretical, based on standard tires. Some speeds may be beyond tire recommendations.

Dimensions

Measurements are approximate based on empty vehicles with standard tires and are rounded up to the next whole number.



1054
1254

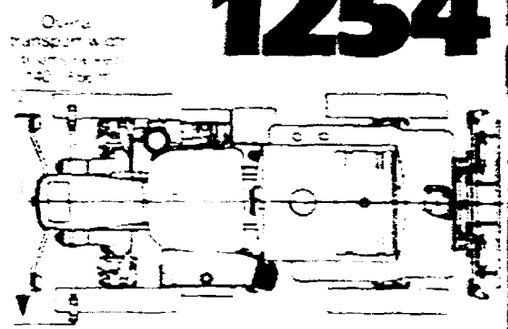
Vehicle Travel Speeds *

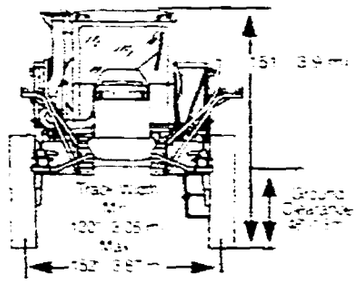
Range	Speed	
4	32 mph	52 kph
3	21 mph	34 kph
2	16 mph	26 kph
1	12 mph	19 kph

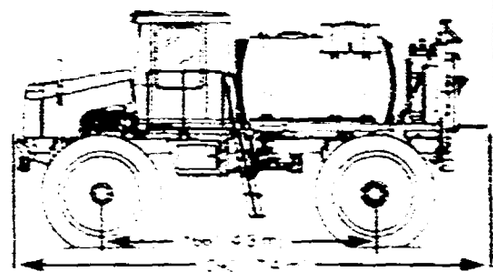
* Vehicle speeds are theoretical, based on standard tires. Some speeds may be beyond tire recommendations.

Dimensions

Measurements are approximate based on empty vehicles with standard tires and are rounded up to the next whole number.







RoGator SPECIFICATIONS

854

Engine: Cummins 6BTA EPA off road emissions certified, inline six cylinder, turbocharged, after-cooled diesel. 360 cubic inch (5.9 L) displacement. 200 HP (149 KW) at 2500 RPM. Peak torque 600 lb-ft (814 N-m) at 1500 RPM. 24 inch (61 cm) eight blade suction fan. Cold weather block heater.

Radiator: De-aerating tube and fin design, bolted construction. 590 square inch (3806 cm²) core area. Four-point rubber mount.

Air cleaner: Dry type, centrifugal precleaner, replaceable primary element, safety element, automatic dust evacuator with restriction indicator.

Hydrostatic drive system: Tandem hydrostatic pump, flywheel driven at engine speed. 5250 psi (362 BAR) available system pressure.

Hydrostatic motors: Heavy-duty direct wheel mounted, split cam, two-speed radial piston wheel motors. Four-speed ranges. Hydrostatic four-wheel drive.

Steering & accessory hydraulic system: Engine mounted, direct driven gear pump for steering and accessory systems. External oil cooler and 48 U.S. gallon (182 L) reservoir.

Steering: Front wheel hydrostatic, full power, proportional, operated by engine mounted hydraulic pump with integral flow control and relief valve. Non-load reaction (non-kick-back) steering unit and cylinders with self aligning spherical ball bearings. Tie rod connected. Optional four-wheel steering.

Brakes: SERVICE: Hydrostatic dynamic braking. PARKING: Multiple wet disc spring apply, hydraulic pressure release [illegible] in all four hydrostatic wheel motor assemblies.

Suspension: Variable rate leaf spring with heavy-duty, off-road, gas charged shocks and fore-aft torque rods at each wheel location.

Track adjust: Hydraulic actuation from cab, optional double acting hydraulic cylinders [illegible] range from approximately 120 inch (305 cm) min. to 152 inch (387 cm) max. Wheels individually adjust on-out.

Cab: Three-point rubber mount, air ride personal posture seat. Chassis and system controls located on right hand console. [illegible] heating and air conditioning. [illegible] operator adjustable cab ride control system.

Fuel System: [illegible] U.S. gallon ([illegible] L) [illegible] capacity. Side post mounted fuel gauge. [illegible]

Frame: [illegible]

Axle: [illegible]

Electrical System: 12V DC [illegible]. Automatic reset circuit breakers.

1054/1254

Engine: Cummins C8.3 EPA off road emissions certified, electronically controlled inline six cylinder, turbocharged and after-cooled diesel. 360 cubic inch (5.9 L) displacement. 275 HP (205 KW) at 2500 RPM. Peak torque 660 lb-ft (895 N-m) at 1600 RPM. 27 inch (69 cm) nine blade suction fan. Cold weather block and grid heater.

Radiator: De-aerating, tube and fin design, bolted construction. 856 square inch (5523 cm²) core area. Four-point rubber mount.

Air cleaner: Dry type with centrifugal precleaner, replaceable primary element, safety element, automatic dust evacuator with restriction indicator.

Hydrostatic drive system: Tandem hydrostatic pump flywheel driven at engine speed. 5800 psi (400 BAR) available system pressure.

Hydrostatic motors: Heavy-duty, direct wheel mounted, two-speed radial piston wheel motors. Four-speed ranges. Hydrostatic four-wheel drive.

Steering & accessory hydraulic system: Engine mounted, direct driven gear pump for steering and accessory systems. External oil cooler and 50 U.S. gallon (182 L) reservoir.

Steering: Front wheel hydrostatic, full power, proportional, operated by engine mounted hydraulic pump with integral flow control and relief valve. Non-load reaction (non-kick-back) steering unit and steering cylinders with self aligning spherical ball bearings. Tie rod connected. Optional four-wheel steering.

Brakes: SERVICE: Hydrostatic dynamic braking. PARKING: Multiple disc, hydraulic [illegible] wheel motor assemblies.

Suspension: [illegible] rear axle.

Track adjust: [illegible]

Cab: [illegible]

Fuel System: [illegible]

Frame: [illegible]

Axle: [illegible]

Electrical System: 12V DC negative ground [illegible]

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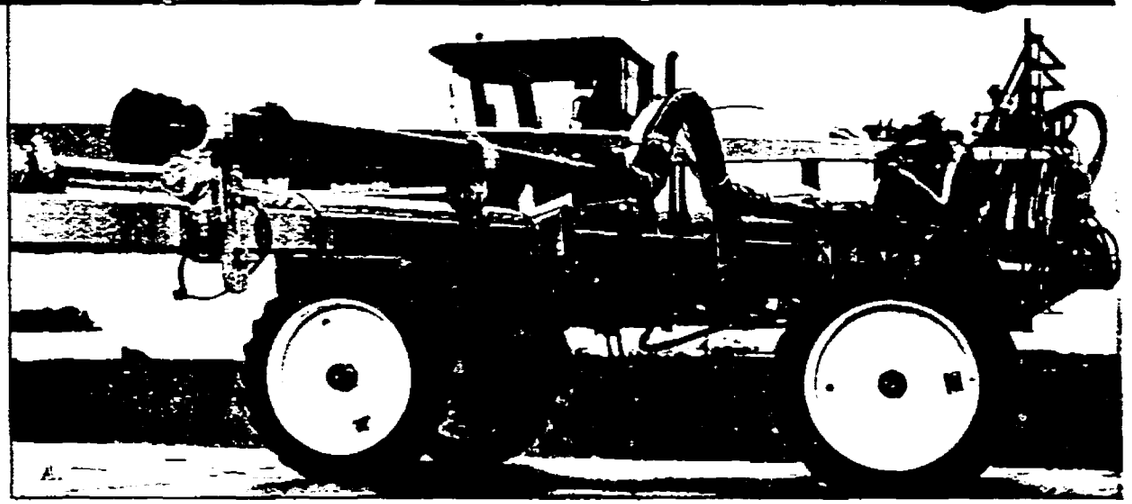
RoGator 854–Specialized Systems

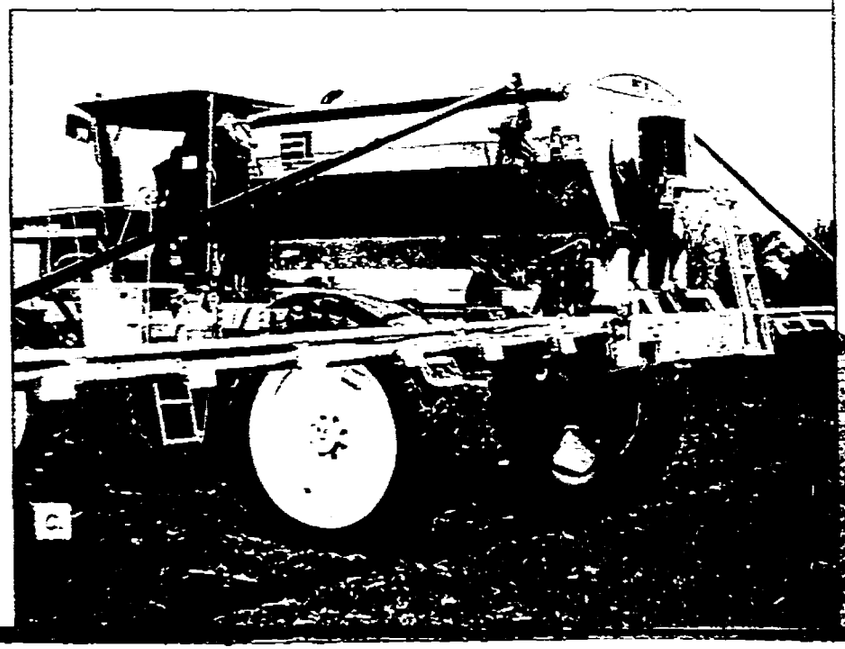
Special application needs require the right machine to meet rigorous demands. RoGator offers numerous options and a wide variety of systems including Acid-Spray, Air-Max, and a Broadcast Spinner Spreader.

The 854, when fitted with the acid options package, meets both normal application needs and provides the appropriate acidfast components to hold up to stringent spraying requirements. Components (pipe, fittings, pipe support brackets, clamps, nozzles and caps) are 316 stainless steel or polypropylene. The product pump on the Acid 854 is specially fitted with acidfast components including: glass filled polypropylene pump housing and impeller, Viton™ pump seats and double lip Teflon™ hydraulic motor seals.

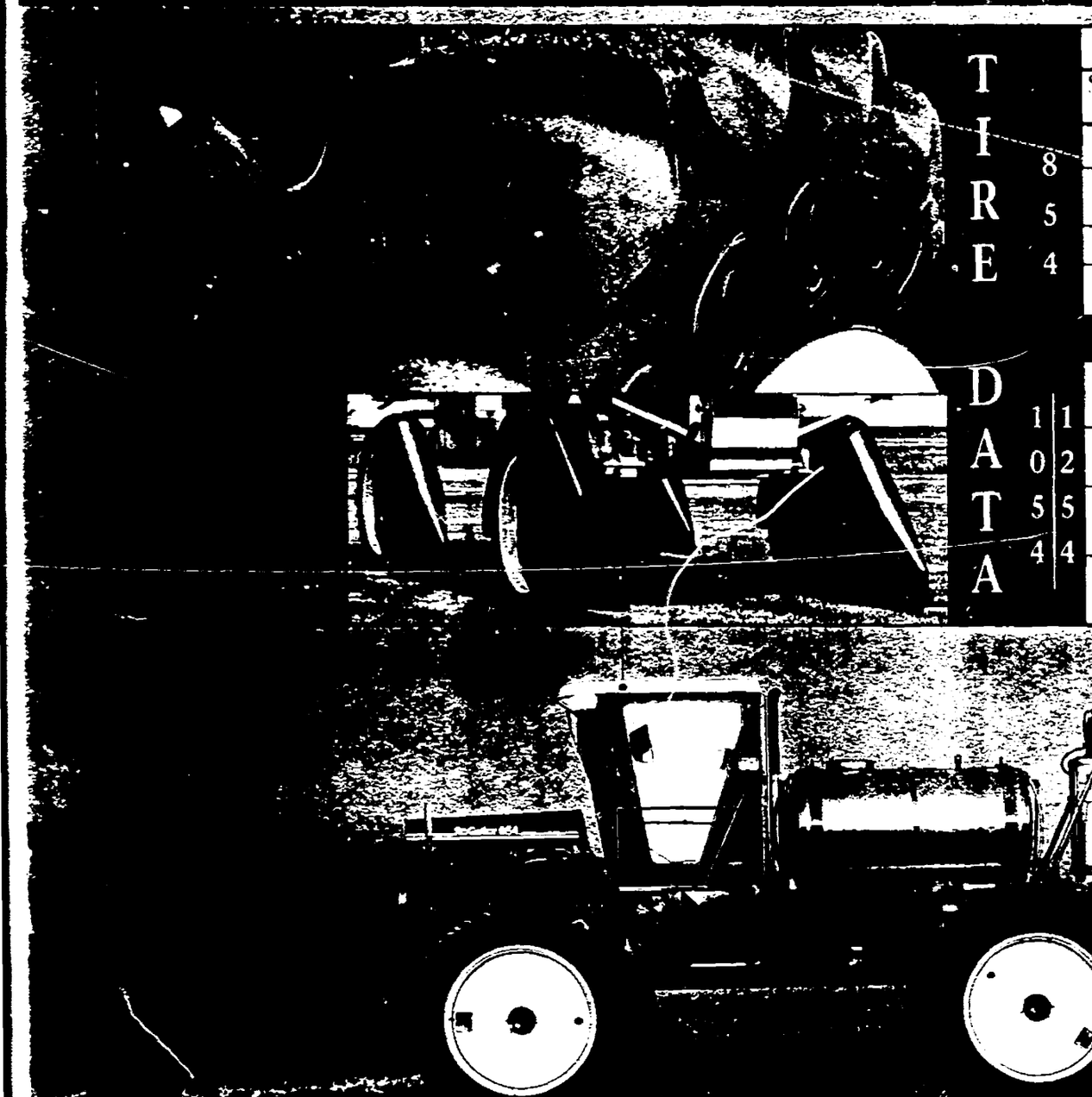
By choosing a dry system such as the proven Air-Max or the high volume spinner spreader, RoGator's field versatility is increased substantially. RoGator's wide range of track width, tire sizes and weight balance make it suitable for both pre-emerge and post-emerge dry product application.



Photos (clockwise from center):
A. Acid-Spray liquid systems are fitted with acidfast components including polypropylene and 316 stainless steel.
B. Broaden the season for the RoGator by broadcast applying dry product with high volume spinner spreader.
C. RoGator's versatility grows with the addition of a system such as the Air-Max.



TIRES AND ACCESSORIES TO MEET VARYING CROP AND FIELD CONDITIONS



Tire	Tire Model	Width	Overall Diameter	Static L.R.	Flat Plate Area (in.²)
STANDARD 854 High Clearance	14.9R46	15	71.8	32.9	240
Radial	385/85 R34	15	59.8	26.9	203
Extra Narrow	9.5R48 (inner tube)	9.5	65.3	30.9	151
Row Crop	320/90R46	12.6	68.6	31.8	190
Flotation	23.1-26 BIAS 12 P.R.	23.3	62.3	28.3	370
1054/1254					
STANDARD Row Crop	14.9-R46 5-Star	15	72.7	33.5	240
NARROW Row Crop	320/90 R50	12.6	73.1	34.5	205
WIDE Row Crop	18.4-R42 5-Star	18.8	77.0	32.8	350
FLOTATION	24.5-32 12 Ply Bias	24.4	71.9	31.8	430

It isn't enough to have a powerful performer if your tires aren't right for your application needs. The above choices of tires provide the options to fit your situation.

Optional crop shields, inset upper left, provide protection for delicate crops, available on model 854 with standard tires.