

VANGUARD

COMBO UNIT

FOR CATERPILLAR®
D5N/D6N TRACK-TYPE TRACTORS



Distributed Exclusively by:

**PipeLine
Machinery**



Your Global Partner for Pipeline Solutions

Pipelayer Attachment

The Vanguard pipelayer system includes winches, boom, mode control, lockout cylinders and attachment frames.

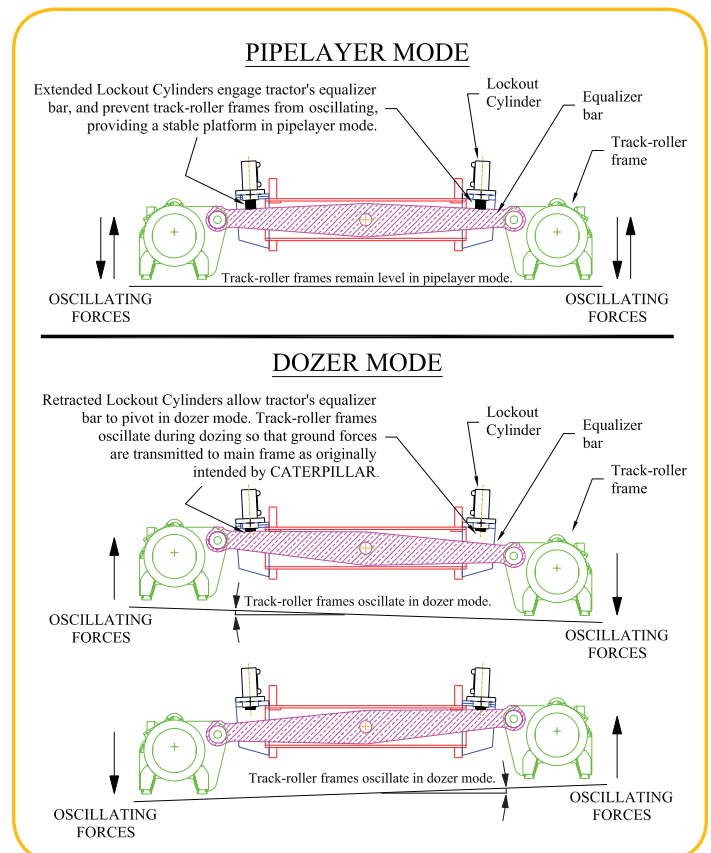
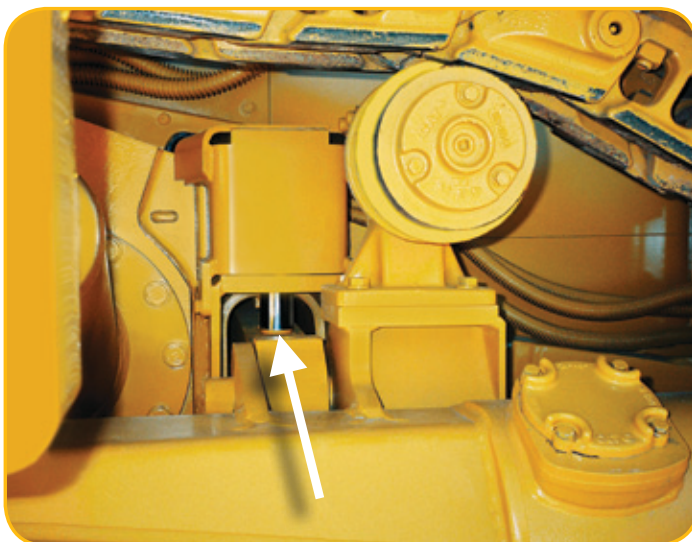
Winch and Boom

- Boom and hook drawworks are driven by independent hydraulic winches.
- Oil-disc brakes provide smooth operation, positive retention of boom and hook positions.
- Modular design allows fast replacement, easy field service and testing.
- Infinitely variable speed controls for both boom and hook allow precise control.
- Tubular, cast-steel boom is rugged, delivers better fatigue life.
- Replaceable boom-mount bearings.
- Emergency quick-drop function on load line control allows the operator to drop the load quickly.



Lockout Cylinder

The VEI pipelayer locks out the tractor's equalizer bar with hydraulically actuated cylinders. These cylinders automatically deploy in pipelaying mode, and automatically retract in dozing mode as controlled through the Mode control lever. When deployed, they extend to contact the equalizer bar, preventing any upward movement and providing a stable-lifting platform.



Folding boom configuration

Folding boom configuration offers fast, easy boom storage using only winch controls and requiring only the operator.



Pipelayer support structure

Pipelayer support structure mounts directly to the main frame, which allows tracks to oscillate. The structure is easily removed.



Operator's Station

Ergonomically designed for operator's maximum comfort, vision and productivity.

Pipelay support structure design allows for clear vision lines to blade corners when dozing, with blade straight or angled.

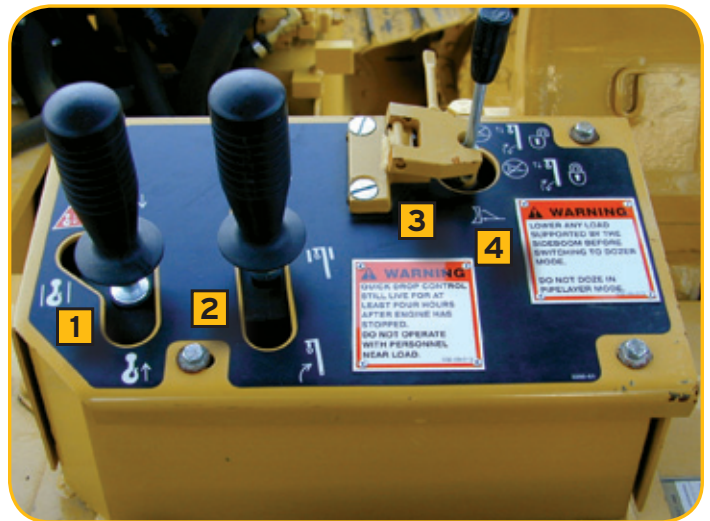


Pipelay controls

Pipelay controls are low effort and allow simultaneous, precise positioning of the load line and boom. Mode control shifts between pipelay or dozer operation.

Mode Control lever

Mode Control lever offers quick selection of machine operating function - pipelay or dozer.



- 1** Hook Control
- 2** Boom Control
- 3** Safety Lockout
- 4** Mode Control

Variable Pitch Power Angle and Tilt (VPAT) Blade.

Manually Adjustable blade pitch for optimum performance.

- Blade pitch is changed easily by adjusting four bolts and shims.
- Full hydraulic control of lift, dig, angle and tilt functions.
- C-frame is solidly pinned to the main frame for good blade control and elimination of blade motion due to track oscillation.
- Lubrication points located at all pin joints reduce wear.
- C-frame to tractor joint is sealed and lubricated with remote lube for extended service life and quiet operation.
- Angle cylinder bypass valve and additional hardware help reduce stress.
- Line guards help protect angle cylinder lines from sharp objects and abrasive materials.



①

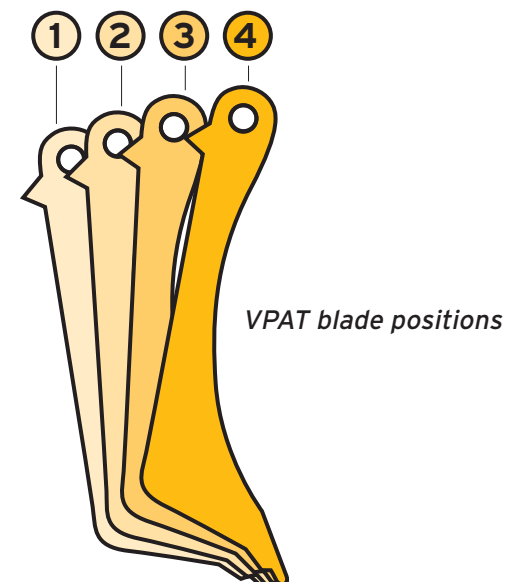
54° position offers maximum blade loads. Also, is the most aggressive position when dozing. Best for production dozing, carry, backfill, land clearing.

② ③

57.5° and 60° positions. Intermediate positions to better match all requirements. The higher the angle, the lower the material blade retention. Best for general dozing.

④

62° position. This higher angle makes an unrutted surface. Best for finishing grading.



Standard Equipment

Standard and optional equipment may vary. Consult your Caterpillar dealer for specifics

- Load winch (equipped with quickdrop)
- Boom winch
- Separate hydraulic pilot-operated controls for:
 - load
 - boom
 - mode selection
- Folding boom
- Load line - two or three part, including blocks
- Boom line - two part, including block
- Hydraulic cylinder lockouts (2) for automatic hardbar locking/unlocking

Optional Equipment

Approximate changes in operating weights.

	kg	lb
6.1 m (20 ft) straight, square section rigid boom	- 90.7	- 200
Bending shoe adapter bracket	45.4	100
Modification kit required for EROPS installation (winches not to be used in conjunction with EROPS)	22.7	50



Bending shoe adapter bracket with bending shoe.

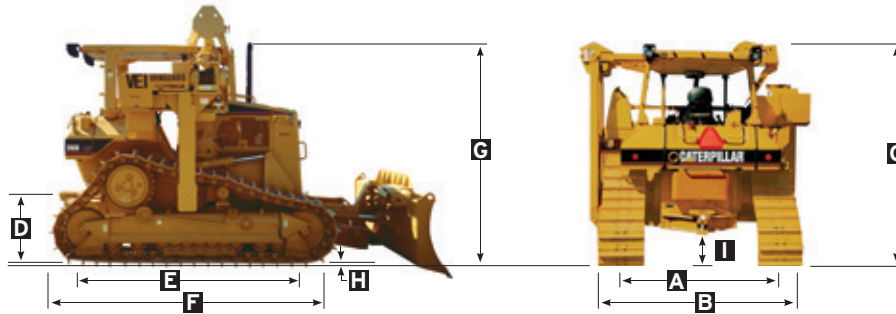
Pipelaying Equipment D5N / D6N

Hydraulic Power		GPM	PSI	Pump Speed (RPM)
	D5N	25	3000	2200
	D6N	35	3250	2200

Planetary Hydraulic Winches						
		Hook		Boom		
Drum diameter	D5N / D6N	193 mm	7.6 in	178 mm	7 in	
Flange diameter	D5N / D6N	371 mm	14.6 in	279 mm	11 in	
Drum length	D5N / D6N	254 mm	10 in	203 mm	8 in	
Capacity	(16 mm/5/8" dia.)	D5N / D6N	67.7 m	222 ft	-	
	(13 mm/1/2" dia.)	D5N / D6N	-	-	35.7 m 117 ft	
Wire Rope installed	(16 mm/5/8" dia.)	D5N	22.6 m	74 ft	-	
		D6N	39.2 m	121.6 ft	-	
	(13 mm/1/2" dia.)	D5N	-	-	19.4 m	63.6 ft
		D6N	-	-	32.9 m	106 ft
Nominal line speed, no load		Hook Speed		Boom line speed		
Bare drum	D5N	22.6 m/min	74 ft/min	30 m/min	98 ft/min	
	D6N	32.3 m/min	106 ft/min	43.6 m/min	143 ft/min	
Two-part line	D5N	11.3 m/min	37 ft/min	-	-	
Three-part line	D6N	10.8 m/min	35.3 ft/min	-	-	
Boom length	D5N / D6N	5.56 m/min or 6.1 m	18ft, 2 3/4 in 20 ft	(folding) (optional square section rigid)		

For Caterpillar D5N/D6N L6P Track-Type Tractors

Dimensions

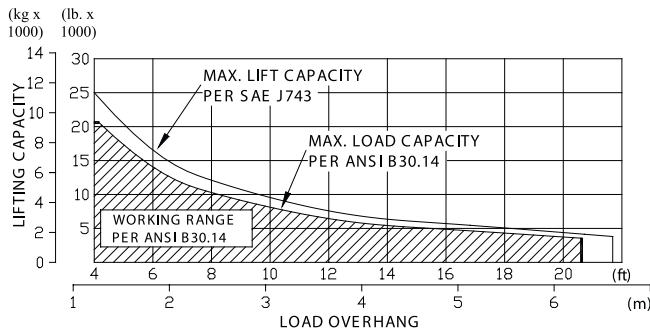


Tractor and Pipelayer Dimensions	LGP (with Pipelayer Attachment)			
	D5N Combo		D6N Combo	
A Track gauge	2000 mm	79 in	2160 mm	85 in
B Width of tractor (boom removed) <i>*blade removed</i>	3143 mm	123.75 in	*3409 mm	*134.2 in
Width of tractor (with folding boom folded) <i>*blade removed</i>	3327 mm	131 in	*3614 mm	*142.3 in
C Machine height from tip of grouser with the following equipment:				
ROPS canopy	3036 mm	119.5 in	3136 mm	123 in
ROPS cab	3039 mm	119.6 in	3197 mm	126 in
Folding boom folded	343 mm	135 in	3666 mm	144.3 in
Folding boom extended vertically	6746 mm	265.6 in	6310 mm	248.4 in
6.1 m (20 ft) rigid boom extended vertically	6205 mm	244.3 in	6850 mm	269.7 in
D Drawbar height (center of clevis) from ground face of shoe	537 mm	21 in	710 mm	27.9 in
E Length of track on ground	2604 mm	103 in	3102 mm	122 in
F Length of basic tractor (with drawbar)	3720 mm	146 in	4149 mm	163 in
With the following attachments, add to basic tractor length:				
VPAT blades, straight	1344 mm	*53 in	1244 mm	49 in
VPAT blade, angled 25°	1779 mm	70 in	2125 mm	84 in
G Height over stack from tip of grouser	2849 mm	112 in	3000 mm	118 in
H Height of grouser	47 mm	1.85 in	57 mm	2.2 in
I Ground clearance from ground face of shoe (per SAE J1234)	422 mm	16.6 in	538 mm	21.2 in
Bulldozer Specifications	(LGP) 5 VPAT Blade		(LGP) 6 VPAT Blade	
Blade capacity (SAE J1265)	2.6 m ³	3.4 yd ³	3.16 m ³	4.13 yd ³
Blade width (over end bits)±	3360 mm	132 in	4080 mm	160.6 in
Blade width (angled 25°)	–	–	–	–
Blade height	1127 mm	44.3 in	1025 mm	40.4 in
Digging depth	415 mm	16.3 in	433 mm	17 in
Ground clearance	1001 mm	39.3 in	1024 mm	40.3 in
Maximum tilt	491 mm	19.3 in	598 mm	23.5 in
Weight (without hyd. Controls)	2000 kg	4409 lbs	2819 mm	6215 in
Total operating weight <i>(with blade and pipelayer attachment, including 18 ft folding boom)</i>				
Power shift FTC	16565 kg	36520 lbs	22675 kg	49990 lbs
Power shift DS	–	–	23481 kg	51940 lbs

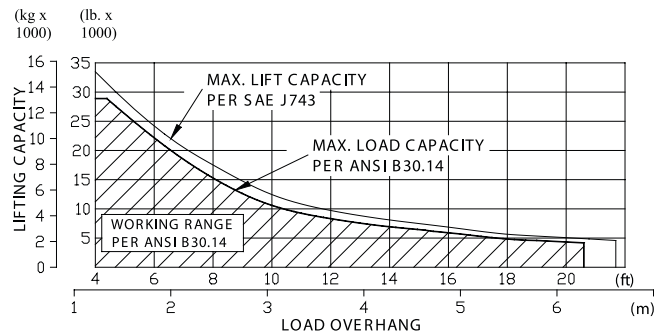
± Special use 5PLGP blade available for applications with 3000 mm (118 in) transportation width restriction.
Optional width on pipelayer available on special order.

Lifting Capacity

VEI D5N LGP pipelayer attachment, 20 ft (6.1 m) maximum boom



VEI D6N LGP pipelayer attachment, 20 ft (6.1 m) maximum boom



Specified Configuration:

- 1) 5/8" (16 mm) wire rope load line, 41200lb. (18700 kg) minimum breaking strength
- 2) 1/2" (13 mm) wire rope boom line, 26600 lb. (12070) kg minimum breaking strength
- 3) 2-part load line, 2-part boom line.
- 4) No additional counter weights with 5VPAT blade installed.
- 5) Standard track shoe width reduced to 24 in.

Specified Configuration:

- 1) 5/8" (16 mm) wire rope load line, 41200lb. (18700 kg) minimum breaking strength
- 2) 1/2" (13 mm) wire rope boom line, 26600 lb. (12070) kg minimum breaking strength
- 3) 3-part load line, 3-part boom line.
- 4) No additional counter weights with 6VPAT blade installed.
- 5) Standard track shoe width reduced to 24 in.

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**PipeLine
Machinery**



**Distributed Exclusively by:
PipeLine Machinery International**

USA: +1-713-939-0007 Netherlands: +31-70-353 8279
Canada: +1-780-377-0336 Australia: +61 423 394 730
China: +86-10-8468-3915
Singapore: +65-9641-0700 **WWW.PLMCAT.COM**

**Manufactured by:
Vanguard Equipment Inc.**

10838 East Newton Place
Tulsa, OK 74116 USA
Phone: 918.437.1796
Fax: 918.437.1796

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