JOHN DEERE

670B
MOTOR GRADER

SAE Net Horsepower	Transmission	SAE Operating Weight
135 hp (101 kW)	Direct Drive Power Shift	29,030 lb. (13 166 kg)

Model shown may include options

ENGINE

John Deere engineered and manufactured six-cylinder diesel engine. Replaceable wet-type cylinder liners ensure superior heat dissipation, longer engine life. High-strength alloy heads include replaceable valve seat inserts. John Deere engines are designed and manufactured with time-proven industry standard features that provide reliable service and long life.

Engine: John Deere 6068T

Rated power at 2300 rpm	135 SAE net hp (101 kW)
	142 SAE gross hp (106 kW)
Turbocharger	standard
Number of cylinders	6
Displacement	414 cu. in. (6.785 L)
Fuel consumption, typical (depending on duty cycle)	3.0 to 6.0 gal./hr. (11 to 23 L/h)
Net torque at 1300 rpm (45% torque rise)	460 lb.-ft. (624 Nm)
Lubrication	pressure system w/full flow filter and cooler
Aspirated air cleaner with restriction indicator	dual element, dry
Electrical system	24 volt with 42-amp (1120 W) alternator
Batteries	two 12-volt with 180 minute reserve capacity

TRANSMISSION

Direct drive, planetary power shift transmission with modulated shift on-the-go speed selections in all eight forward and four reverse gears. There are five working speeds below 9 mph (15 km/h). Standard equipment also includes an inching pedal and tow disconnect.

TRAVEL SPEEDS

(At 2300 engine rpm with 13.00-24 tires and no tire slip)

	Forward		Reverse	
Shift Lever Position	mph	(km/h)	mph	(km/h)
1	2.2	3.5	2.9	4.7
2	3.2	5.1	4.1	6.6
3	4.9	7.9	6.3	10.1
4	6.4	10.3	8.2	13.2
5	8.4	13.5		
6	10.9	17.5		
7	14.2	22.9		
8	24.4	39.3		

FINAL DRIVE

Inboard-mounted planetary final drives are sealed in cool, filtered oil. The operator-controlled differential lock/unlock system allows the differential to easily be locked for maximum traction or unlocked for maneuverability in tight turns. Two-inch (51 mm) pitch tandem drive chains are sized for long life.

BRAKES

Foot-operated hydraulic wet-disk power brakes are sealed in cool, filtered oil. They're self-adjusting and maintenance free. Standard equipment also includes a hand-operated, mechanical dry-disk parking brake. Both independent braking systems are effective on all four tandem wheels.

FRONT AXLE

Heavy-duty, welded box construction	
Front axle oscillation (total)	32 degrees
Wheel lean (each direction)	20 degrees

STEERING

A John Deere innovation – all hydraulic power frame articulation provides maximum maneuverability and productivity. Crab steering reduces side drift, positions the tandems on firm ground and increases sideslope stability.

Frame articulation (both right and left)	25 degrees
Minimum turning radius	22 ft. (6.7 m)

HYDRAULICS

The closed-center hydraulic system uses a pressure-controlled variable-displacement single hydraulic pump. Integral hydraulic control valve lockouts eliminate cylinder drift. O-ring face seal and fittings eliminate hydraulic leaks.

Hydraulic pump	4.0 cu. in. (65 cm^3)
Rated flow at 2500 engine rpm	37.6 gpm (142 L/min.)

TIRES AND RIMS

Tire Size	Wheel Tread		Overall Width		Ground Clearance
	Front	Rear	Front	Rear	(Front Axle)
13.00-24 9 in. rim (229 mm)	76.60 in. (1.94 m)	79.60 in. (2.02 m)	7 ft. 10 in. (2.39 m)	7 ft. 10 in. (2.39 m)	22 in. (559 mm)
14.00-24 10 in. rim (254 mm)	76.60 in. (1.94 m)	79.60 in (2.02 m)	8 ft. (2.44 m)	8 ft. (2.44m)	22.5 in. (572 mm)
17.5-25 14 in. rim (356 mm)	79.40 in. (2.02 m)	82.40 in (2.09 m)	8 ft. 6 in. (2.59 m)	8 ft. 6 in. (2.59 m)	23.2 in. (589 mm)

CAPACITIES

	U.S.
Fuel tank	70 gal. (265 L)
Cooling system	7 gal. (26.5 L)
Engine lubrication, including filter	20 qt. (18.9 L)
Transmission and hydraulic system (refill)	14 gal. (53 L)
Tandem housings (each)	5 gal. (18.9 L)
Circle gearbox	3 qt. (2.8 L)

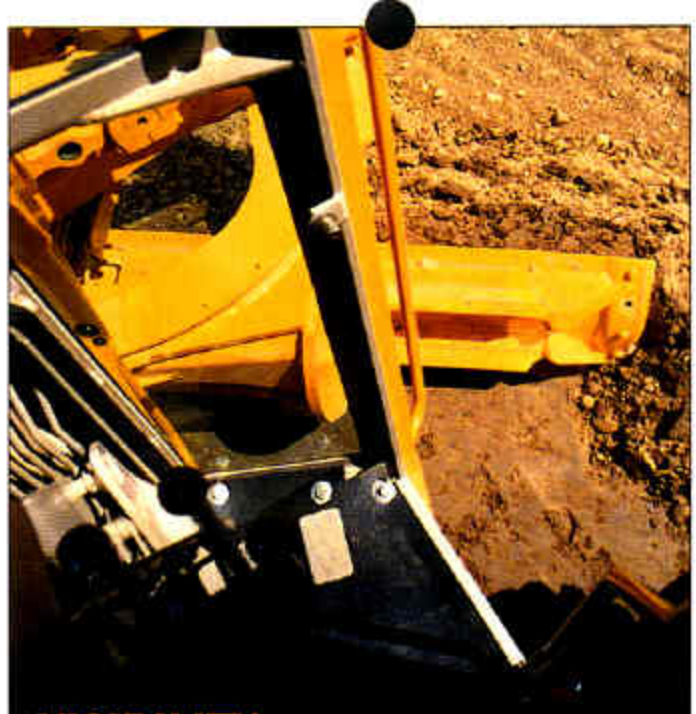
OPERATING WEIGHTS

SAE	On Front Wheels	On Rear Wheels	Total
With standard equipment	8,620 lb. (3 909 kg)	20,410 lb. (9 256 kg)	29,030 lb. (13 166 kg)
With standard equipment and scarifier	10,610 lb. (4 812 kg)	20,150 lb. (9 138 kg)	30,760 lb. (13 950 kg)
With standard equipment, scarifier and ripper	9,870 lb. (4 476 kg)	23,440 lb. (10 630 kg)	33,310 lb. (15 107 kg)

Typically equipped operating weights range up to 35,020 lb. (15 882 kg)

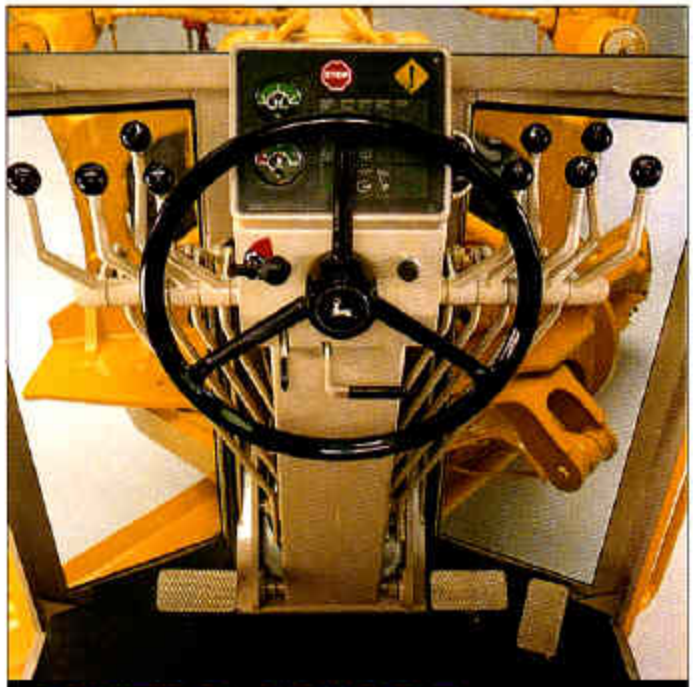
BLADE

All blade sliding components are precision machined for close adjustment with minimum looseness. Replaceable bronze inserts eliminate component wear and the need for greasing. All structural members are designed to handle both low speed dirt work and high speed snow removal.



VISIBILITY

Excellent visibility and low noise, along with numerous climate control options, result in a comfortable and productive work environment. Unmatched visibility to and through the working tool allow the operator to precisely locate and control blade position.



CONTROL CONSOLE

Industry standard control locations with independently adjustable console and steering wheel provide the most comfortable operating position. The electronic monitoring system supplies routine operational information and warns of impending critical function problems before they become catastrophic. New electronic differential lock is located on control console.

DURABILITY

Circle and draft frame are built to withstand high impact loads and are precision machined for smooth, accurate operation. Six circle support shoes are adjustable and easily replaceable. Heavy-duty constructed moldboard assures long life.

SCARIFIER

V-type manual three-pitch position with hydraulic float.

Width of cut	4 ft. (1.22 m)
Number of teeth	5 standard, 9 optional
Lift above ground	21.8 in. (554 mm)
Maximum penetration	13.3 in. (338 mm)
Shank size	1 x 3 in. (25 x 76 mm)

RIPPER

Parallelogram linkage with manual valve control.

Width of cut	8 ft. (2.44 m)
Number of shanks	3 standard, 5 optional
Lift above ground	14.5 in. (368 mm)
Maximum penetration	14 in. (356 mm)
Shank size	2 x 5 in. (51 x 127 mm)

RIPPER/SCARIFIER

Parallelogram linkage with manual valve control and hydraulic float.

Ripper:

Width of cut	8 ft. (2.44 m)
Number of shanks	3 standard, 5 optional
Lift above ground	14.5 in. (368 mm)
Maximum penetration	14 in. (356 mm)
Shank size	2 x 5 in. (51 x 127 mm)

Scarifier:

Width of cut	6 ft. 10 in. (2.08 m)
Number of teeth	9
Lift above ground	17.5 in. (444 mm)
Maximum penetration	12.0 in. (305 mm)
Shank size	1.25 x 4.0 in. (32 x 102 mm)

ADDITIONAL STANDARD EQUIPMENT

Engine/Power Train:
- Air precleaner
- Antifreeze
- Electric fuel shutoff
- Fan guard
- Fuel filter
- Radiator trash screen
- Transmission tow disconnect
- 13.00-24, 8 PR, G2 tires

Electrical System:
- 40 amp (1120 watt) alternator
- Batteries with 180 min. (625 CCA) reserve capacity
- Horn
- Lights
  - Driving (2)
  - Flashing and turn signals (4)
  - Stop and tail (2)
- Reverse warning alarm

Hydraulics:
- Controls
  - Blade lift with float
  - Blade pitch
  - Blade sideshift
  - Circle rotate
  - Circle side shift
  - Frame articulate
  - Wheel lean
- Hydraulic differential lock
- Hydraulic oil cooler
- Hydraulic pump, 4.0 cu. in. (65 cu. cm), 37.6 gpm (142 Lpm)
- Power brakes
- Power steering

Operator's Station:
- Adjustable front console
- Cushioned vinyl seat
- Front windshield wiper
- Instrument lights
- Interior light
- Low profile cab with ROPS
- Mirrors
  - Interior rearview
  - Outside rearview (2)
- Seat belt
- Switch-operated differential lock control
- Tilt steering
- Tinted glass

Instruments and Indicators:
- Dual level monitor system
  - Alternator voltage warning light
  - Brake pressure warning light with audible alarm
  - Engine air cleaner restriction warning light
  - Engine coolant temperature warning light with audible alarm
  - Engine oil pressure warning light with audible alarm
  - Hydraulic oil filter restriction warning light
  - Park brake engaged (in gear) warning light with audible alarm
  - Saddle locking pin disengaged warning light
  - Transmission oil filter restriction warning light
  - Transmission oil pressure warning light
  - Transmission oil temperature warning light with audible alarm
- Indicator lights
  - Differential lock engaged
  - Turn signal and hazard warning
- Gauges
  - Articulation indicator
  - Fuel
  - Hourmeter

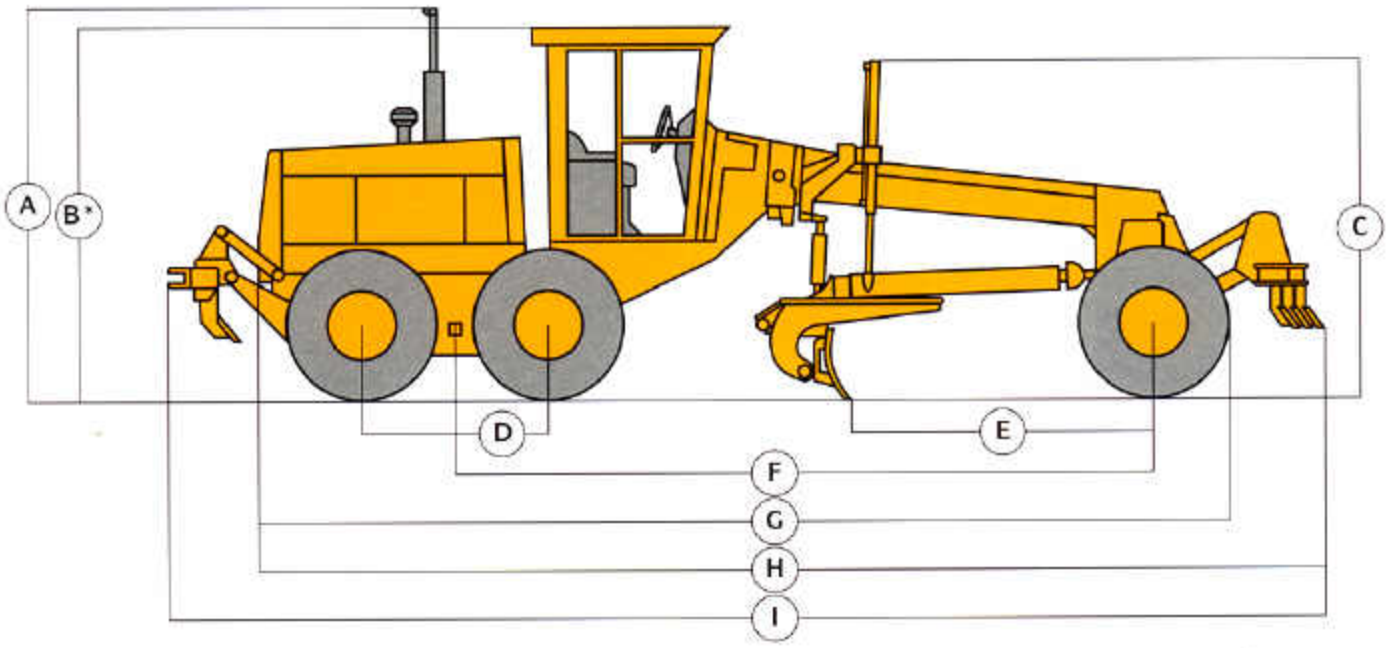
Moldboard:
- 12 ft. x 24 in. (3.66 m x 610 mm) moldboard with .62 x 6 in. (16 x 152 mm) through hardened Dura-Max cutting edge

OPTIONAL OR SPECIAL EQUIPMENT WITH APPROXIMATE WEIGHTS

(Add these weights to SAE standard equipment operating weight to obtain total operating weight.)

	lb.	kg
Engine/Power Train:		
Cold weather ether starting aid	3	1
Coolant heater	2	1
Operator's Station:		
Air conditioner with pressurizer and heavy-duty alternator	177	80
Cab, full height with ROPS	82	37
Canopy, low profile with ROPS	-226	-103
Control conversion (moves LH blade control to RH side)	2	1
Defroster fan	4	2
Defroster fans (dual)	8	4
Floormat	9	4
Heater – 20,000 Btu/hr (5.9 kW)	16	7
Heater – 40,000 Btu/hr (11.7 kW)	31	14
Heater – 25,000 Btu/hr (7.3 kW), roof mounted for use with air conditioner	17	8
Pressurizer, cab fresh air	43	20
Seat belt, 3 in. (76 mm)	3	1
Seat, deluxe suspension vinyl with armrests	90	41
Seat, deluxe suspension cloth with armrests	90	41
Windshield washers, front and rear	15	7
Wipers/washers, lower front windows	7	3
Wiper, rear window	5	2
Electrical System:		
Alternator, 50 amp (1400 watt)	17	8
Beacon wiring and switch	2	1
Blade lights (2 mounted under cab)	4	2
Work lights (2 front, 2 rear)	12	5
24 volt to 12 volt converter	3	1
Hydraulics:		
Auxiliary function valve for front-mounted equipment	3	1
Auxiliary function valve for rear-mounted equipment	50	23
Hydraulic pump, 6.0 cu. in. (98 cu. cm) 52.4 gpm (198 Lpm)	50	23
Hydraulics for front-mounted equipment	19	9
Moldboards:		
12 ft. x 24 in. (3.66 m x 610 mm) moldboard with .75 x 8 in. (19 x 203 mm) through hardened Dura-Max cutting edge	126	57
13 ft. x 24 in. (3.96 m x 610 mm) moldboard with .62 x 6 in. (16 x 152 mm) through hardened Dura-Max cutting edge	60	27
13 ft. x 24 in. (3.66 m x 610 mm) moldboard with .75 x 8 in. (19 x 203 mm) through hardened Dura-Max cutting edge	196	89
14 ft. x 24 in. (4.27 m x 610 mm) moldboard with .62 x 6 in. (16 x 152 mm) through hardened Dura-Max cutting edge	119	54
14 ft. x 24 in. (4.27 m x 610 mm) moldboard with .75 x 8 in. (19 x 203 mm) through hardened Dura-Max cutting edge	265	120
Extensions, 2 ft. (610 mm) right or left (less cutting edge)	220	100
Overlay end bits (1 pair)		
6 in. (152 mm)	62	28
8 in. (203 mm)	77	35
Attachments:		
Bottom guard, general purpose	170	77
Bottom guard, heavy duty with rear hitch	610	277
Engine side shields	60	27
Front-mounted dozer blade – 106 x 31.6 in. (2.69 m x 803 mm) 5.3 in. (135 mm) dig below ground 28.9 in. (734 mm) lift above ground	1490	676
Front-mounted scarifier with 5 teeth	1730	785
Front pushblock	1750	793
Front weight	550	250
Rear hitch	61	28
Rear-mounted ripper with hitch and 3 shanks	2470	1120
Rear-mounted ripper/scarifier with hitch, 3 ripper shanks and 9 scarifier teeth	3284	1489
Toolbox	11	5
Tires:		
13.00-24, 12 PR, G2 tires on 9 in. rims	126	57
14.00-24, 12 PR, G2 tires on 9 in. rims	210	95
14.00-24, 12 PR, G2 tires on 10 in. 3-piece rims	577	262
14.00-24 radial tires on 10 in. 3-piece rims	799	362
17.5-25, 12 PR, L2 tires on 14 in. 3-piece rims	1049	476
Other tire sizes available		

DIMENSIONS



Key:

A	Height to top of exhaust	10 ft. 3 in. (3.12 m)
B	Height to top of cab	10 ft. 0.5 in. (3.06 m)
C	Height to top of blade lift cylinders	9 ft. 7 in. (2.92 m)
D	Tandem axle spacing	5 ft. 0.7 in. (1.54 m)
E	Bladebase	8 ft. 9 in. (2.67 m)
F	Wheelbase	19 ft. 7 in. (5.97 m)
G	Overall length	27 ft. 3 in. (8.31 m)
H	Overall length with scarifier	29 ft. 7 in. (9.02 m)
I	Overall length with scarifier and ripper	31 ft. 11 in. (9.73 m)

*Add 8.3 in. (210 mm) for full height cab
Add 1.0 in. (25.5 mm) for cab with air conditioning
Add 0 in. (0 mm) for low profile canopy with ROPS

BLADE FUNCTION

All hydraulic, industry-preferred hand lever placement of blade function controls (standard equipment). Blade lift controls include a float position. Conversion from two-hand to one-hand control is easily accomplished. Seven blade lift arm positions provide excellent blade positioning capabilities. Blade components are fully adjustable.

BLADE RANGE

Lift above ground	17.5 in. (444 mm)
Blade side shift, right or left	26.9 in. (683 mm)
Shoulder reach outside wheels (frame straight):	
Right	83 in. (2.11 m)
Left	85 in. (2.16 m)
Pitch at ground line	49 deg. forward
	5 deg. back

MAINFRAME

Welded box construction

Width, minimum	12.07 in. (306.5 mm)
Height, minimum	10.63 in. (270 mm)
Thickness, sides	0.63 in. (16 mm)
top and bottom	1.00 in. (25 mm)
Weight per ft., minimum	118 lb.-ft. (175.5 kg/m)
Minimum vertical section modulus	117 in.^{3} (1917 cm^3)
Average vertical section modulus at saddle	149 in.^{3} (2448 cm^3)

DRAWBAR

Welded box construction machined for flatness with double ball and socket pivot connection and replaceable wear inserts.

CIRCLE

Welded construction, heat-treated for strength and machined for flatness with replaceable wear inserts.

Circle diameter	60 in. (1.52 m)
Rotation	360 degrees
Drive	hydraulic motor and worm gear with positive position lock
Sideshift, right	28.5 in. (724 mm)
left	31.0 in. (787 mm)

MOLDBOARD

High strength, wear resistant high carbon steel with replaceable side shift wear inserts.

Length	12 ft. (3.66 m)
Height	24 in. (610 mm)
Thickness	0.88 in. (22 mm)

CUTTING EDGE

Dura-Max® through-hardened steel edge.
Thickness and width ..... 0.62 x 6.0 in. (16 x 152 mm)

ADDITIONAL AVAILABLE EQUIPMENT*

Automatic blade controls
Compactors
Dozer blades
Fenders
Grade and slope indicators
Push blocks
Slopers
Snowplows and wings
Tire chains
Windrow eliminators

* See your John Deere dealer for further information.

THE JDAdvantEDGE

JDAdvantEdge is a wealth of support programs, parts systems and dealer resources, all designed to give you the edge. This package of special benefits is a major reason why John Deere offers the "best value" for your equipment dollar.

Best parts support – Twelve regional parts depots in North America and others around the world put parts support near your job no matter where in the world it is.

A computerized FLASH™ parts locating system linking these depots to dealerships can find out-of-stock parts in a hurry and get them into your hands fast. Usually within 24 hours.

Best service backup – Dealer service technicians are regularly schooled, at our modern facility in Davenport, Iowa, or by professionals in the field, to diagnose quickly and repair efficiently.

If they're stumped, a phone call to DTAC (Dealer Technical Assistance Center) puts them in touch with a staff of pros at the factory who help them find a solution quickly.

Best dealers – Your John Deere dealer is an important contributor to the JDAdvantEdge. He or she is committed to being the best equipment supplier you can work with.

This is a dollars-and-cents commitment in parts inventory, in service facilities, in field service trucks. It's a sweat-and-blood commitment in dedicated, skilled and highly trained and motivated personnel in each and every department at the dealership.

But what sets John Deere dealers apart from all the rest is something more, a factor somewhat difficult to measure ... a caring attitude, and a sincere desire to be the best at meeting the needs of each individual customer.

John Deere Finance Plans – Whether you rent, lease or buy John Deere equipment, your dealer can explain the John Deere options available. One-stop options that let you free up operating capital, keep other lines of credit open. More solid benefits of the JDAdvantEdge.

Best protection – In addition to the new equipment warranty that meets or exceeds the competition, SECURE® extended coverage, an optional service product for John Deere equipment, is available for repair coverage after the warranty concludes. Full machine or power train coverage is available for a variety of time periods to meet your needs. Consult your dealer for availability and details.

Quality manufacturing – This machine was manufactured at the John Deere Davenport Works, Davenport, Iowa, which has been registered to the International Organization for Standardization (ISO) standard 9001. The Davenport Works has been audited and recognized for its excellence in quality systems by the Quality Management Institute (QMI) and the Japanese Machinery & Metal Inspection Institute (JMI).

JOHN DEERE

Net engine power is with standard equipment including air cleaner, exhaust system, alternator, and cooling fan, at standard conditions per SAE J1349 and DIN 70 020, using No. 2-D fuel at 35 API gravity. No derating is required up to 10,000 feet (3050 m) altitude. Gross power is without cooling fan.

Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with SAE standards. Except where otherwise noted, these specifications are based on a unit with 13.00-24, 8 PR tubeless tires, 12-ft. (3.66 m) moldboard with .62 x 6-in. (16 x 152 mm) cutting edge, and standard equipment. Weights include lubricants, coolants, full fuel tank and 175-lb. (79 kg) operator.

SAFETY live with it