

YANMAR

**RULE
THE JOBSITE.**



Yanmar Construction Training

Yanmar Worldwide



Yanmar Profile

RULE THE JOBSITE.

Trade Name: YANMAR Co., Ltd.
Head Office: Osaka, Japan
Founded : March, 1912
Chairman: Tadao Yamaoka
President: Takehito Yamaoka

Consolidated base Net sales:
504.6 billion yen (\$5.94 billion)

Ordinary profit:
13.0 billion yen (\$153 million)

Employees:
15,145



History

- 2009** North America Companies consolidated into YANMAR America Corp.
- 2002** YANMAR's 90th anniversary since founding. Name changed to YANMAR Co., Ltd.
- 1997** ISO14001 certification for all plants
- 1992** ISO9001 certification for all business op's
Ten millionth diesel engine produced
- 1987** World's first diesel outboard engine developed
- 1983** World's smallest air-cooled diesel engine developed
- 1981** Subsidiary established in the United States
- 1952** Company name changed to YANMAR Diesel Engine Co., Ltd.
- 1933** World's first practical small diesel engine developed
- 1912** Founded as Yamaoka Hatsudoki Kosakusho

Our Business

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❖ **YANMAR Manufacturing America**

Adairsville, GA Established 1999
U.S. Corporate Headquarters

Total Employees: 191
Total Capital: \$21.15M
2010 Gross Sales: \$287M

❖ NY Branch Office
Established 2008

➤ Large marine engine parts & service

History Overview

- 2010 YANMAR America Corp. Illinois office relocated to Adairsville, GA.
- 2009 YANMAR Agricultural Machinery America and YANMAR Marine America merged into YANMAR America Corp.
- 2008 YANMAR America Corp Adairsville GA plant No. 2 completed.
- 2007 YANMAR Agricultural Machinery America Corp. established.
- 2007 YANMAR America IL and YANMAR Manufacturing America merged into YANMAR America Corp.
- 2006 C.U.T. Supply Company LLC, a tractor sales company, established in Ohio.
- 2004 YANMAR Marine U.S.A. Corp. established in Georgia, U.S.A
- 2001 Transaxle Manufacturing of America Corp. established in Charlotte, NC.
- 1999 YANMAR Manufacturing America Adairsville GA. plant No.1 completed.
- 1992 YANMAR Diesel America Corp. and YANMAR Diesel Engine (U.S.A) Inc. merged into YANMAR Diesel America Corp.
- 1989 Tuff Torq Corp. established in Tennessee, U.S.A.
- 1984 YANMAR Diesel Engine(U.S.A.)Inc. established in Anaheim, CA.
- 1981 U.S.A Liaison Office incorporated; YANMAR Diesel America Corp. established in Chicago, IL.



Major Customers

- 267 Independent Dealership Locations
 - 230 in USA
 - 37 in Canada

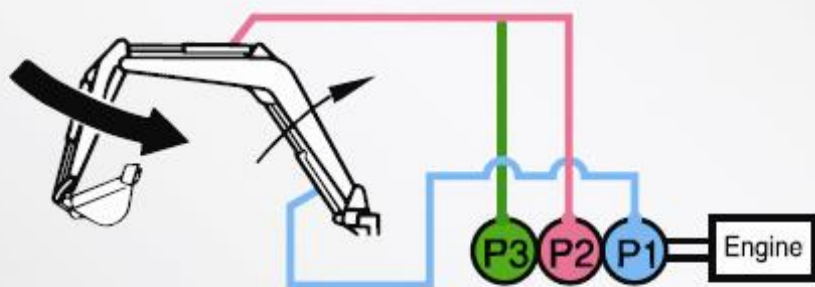
YANMAR Compact Excavator Summary

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	Sv08-1	ViO17	ViO27-5B	ViO35-6A	ViO45-5B	ViO55-5B	ViO80	Sv100-1
Weight (lbs) (rubber tracks)	2,348	3,836	6,946 = P 7,231 = C	7,905 = P 8,214 = C	10,275 = P 10,562 = C	11,532 = P 11,819 = C	18,136	21,554
Eng HP	10.3	13.5	21.6	24.4	39.5	39.5	54.6	73.3
Width (inches)	27 to 33	37 to 49	61	69	65	66	77	79
Dig Depth (inches)	62	79	114	135	152	164	172	178
Bkt Force (lbs force)	2,360	3,417	5,721 QC 6,161 w/o	5,643 QC 7,216 w/o	7,255 QC 9,158 lw/o	8,207 QC 10,347 w/o	12,583 QC 15,863 w/o	13,562 QC 17,087 w/o
Arm Force (lbs force)	1,390	1,918	3,528	4,410	4,995	5,062	8,363	9,658
Versions	Folding ROPS	ROPS Canopy	Canopy Cab/Heat	Canopy Cab/Heat Cab/Aircon	Canopy Cab/Heat Cab/Aircon	Canopy Cab/Heat Cab/Aircon Angle Blade	Cab/Aircon	Cab/Aircon

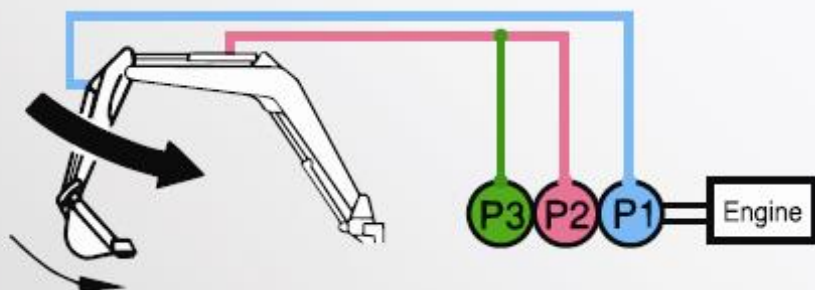
effective: November 01, 2010

- “ViO” = “Victory Over Zero” (true zero tail swing)
- “Sv” = Limited or Tight tail swing (not true zero tail swing)
- “55” = 5.5 metric tons operating weight
- “-5B” = second (B) generation of version 5 of ViO55
- “PR” = canopy + rubber tracks (P for “platform, R for “rubber”)
- “P” = canopy + steel tracks (P for “platform, no indication means “steel”)
- “CR” = cab/heat + rubber tracks (C for cabin)
- “C” = cab/heat + steel tracks
- “CRC” = cab/heat/aircon + rubber tracks (CC for cab + air conditioning)
- “PRL” = canopy (platform) + rubber tracks + angle blade (L for angle blade version)
- “CRCL” = cab/heat/aircon + rubber tracks + angle blade



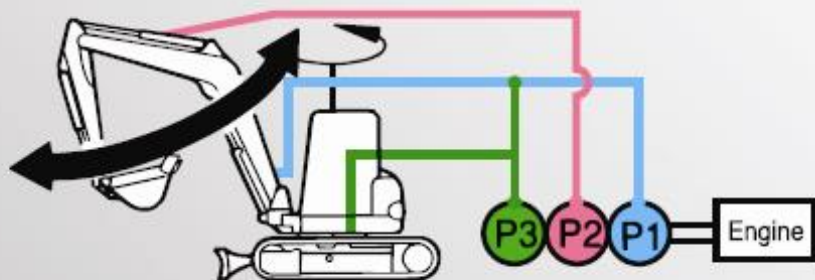
ARM × Boom

pump 2+pump 3 **activate "ARM"**
pump 1 **activates "BOOM"**



ARM × Bucket

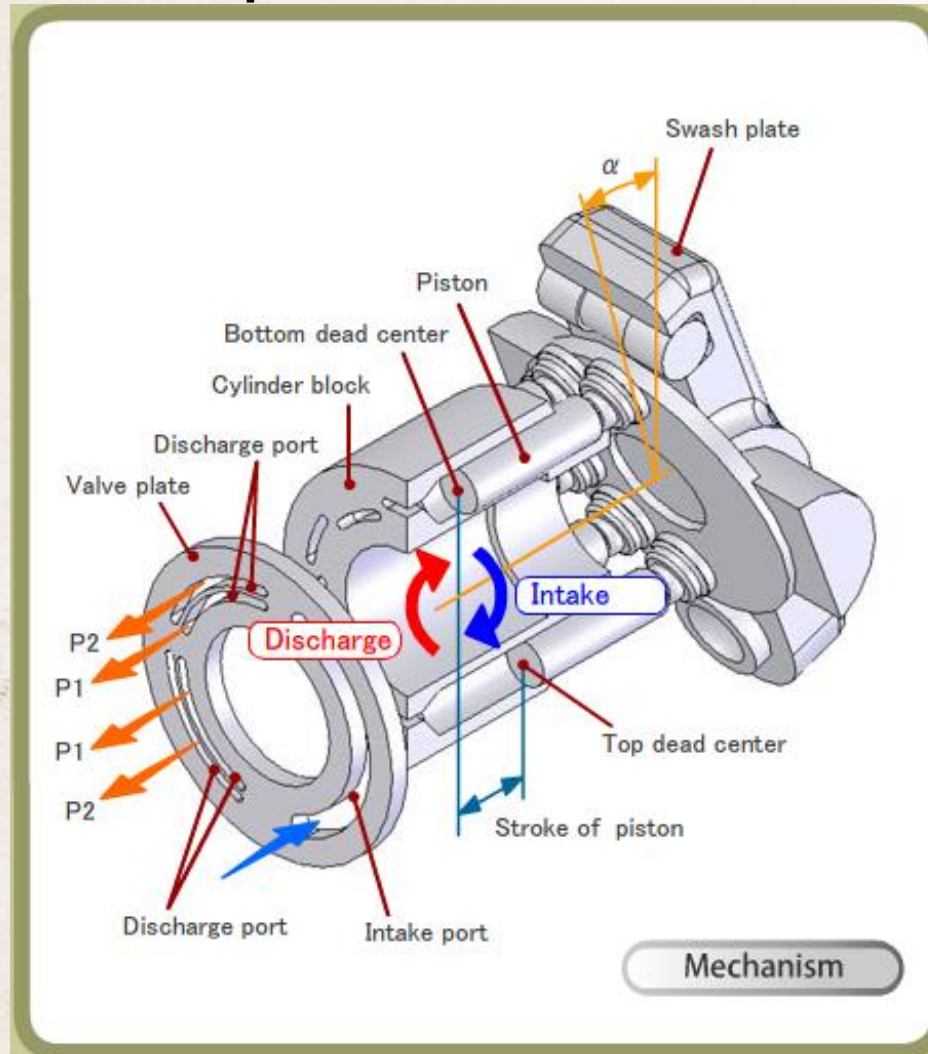
pump 1 **activates "BUCKET"**
pump 2+pump 3 **activate "ARM"**



ARM × Boom × Swivel

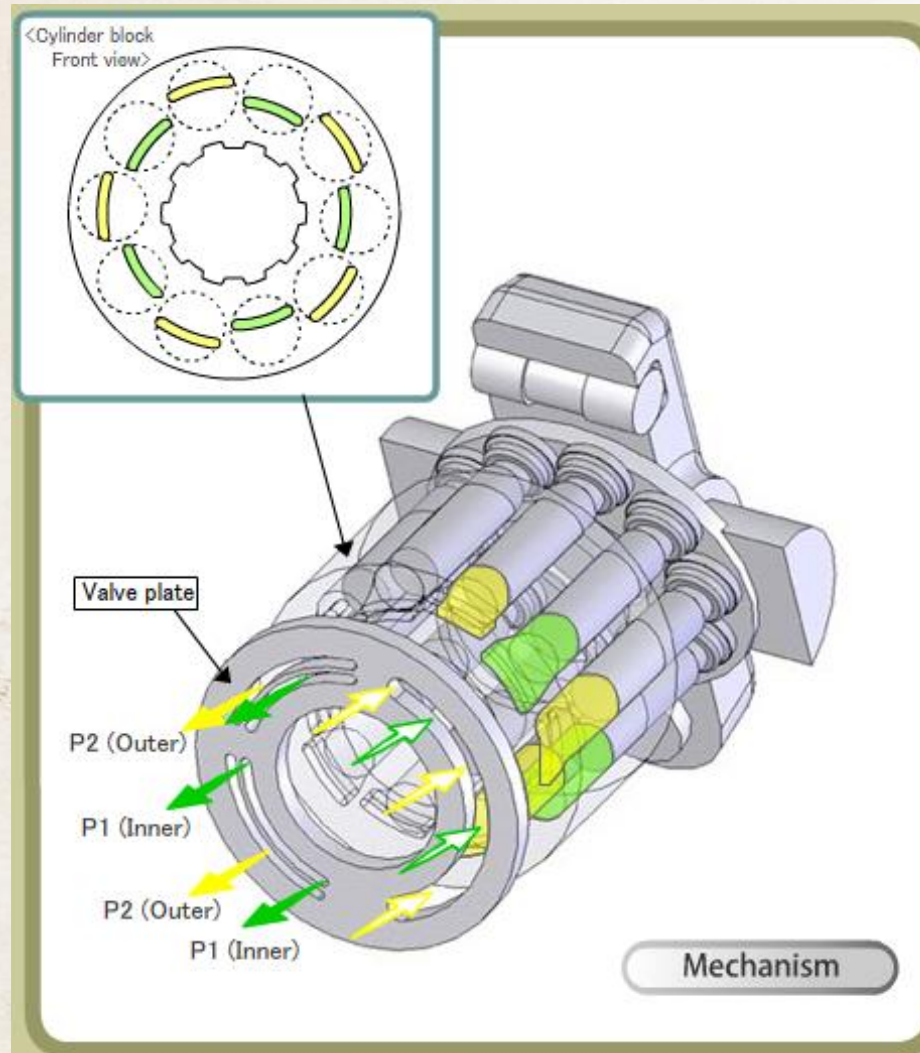
pump 1 +pump 3 **activate "BOOM"**
pump 2 **activates "ARM"**
pump 3 **activates "SWIVEL"**

- Variable Displacement Piston Pump(s)



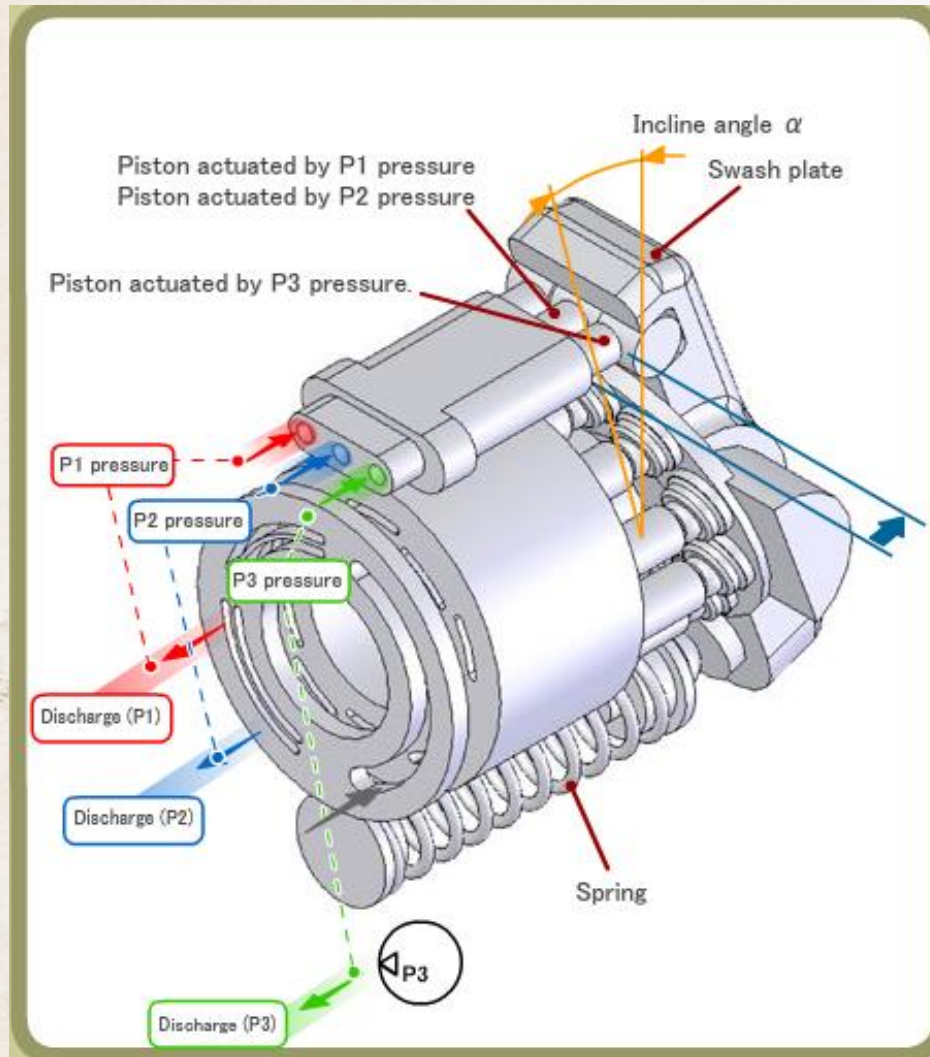
ViO27 – ViO80: Common Features

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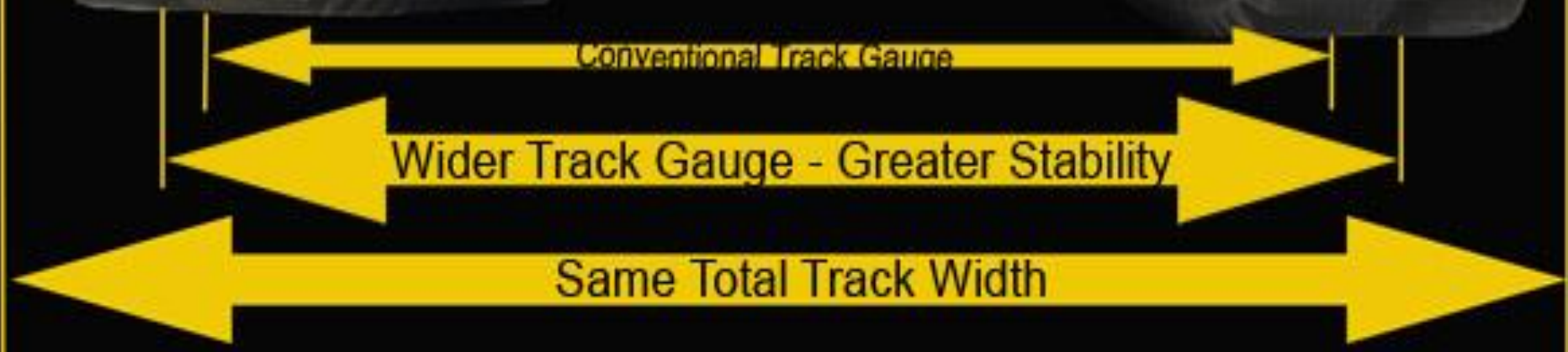


ViO27 – ViO80: Common Features

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VICTAS



Conventional Track Gauge

Wider Track Gauge - Greater Stability

Same Total Track Width

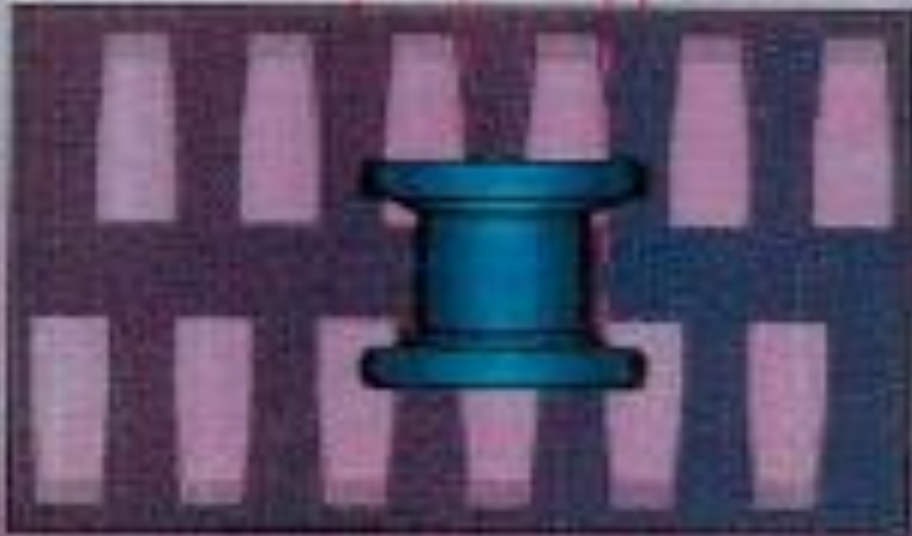
ViCTAS

NO GAP



ALTERNATED
ARRANGEMENT

SHORT PITCH

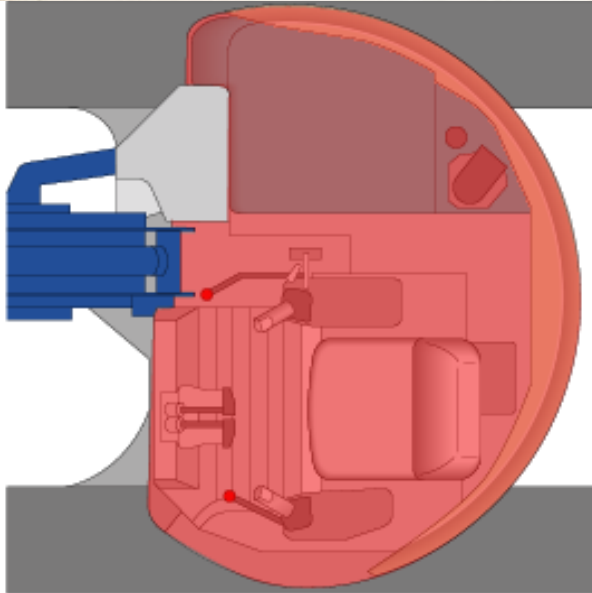


ViO27 – ViO80: Common Features

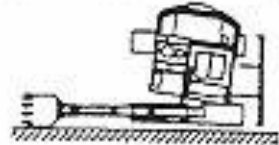

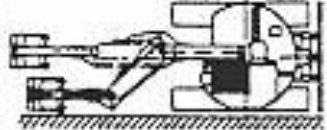
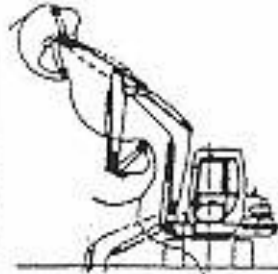
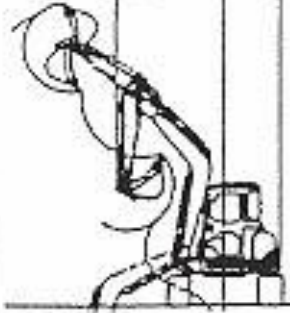
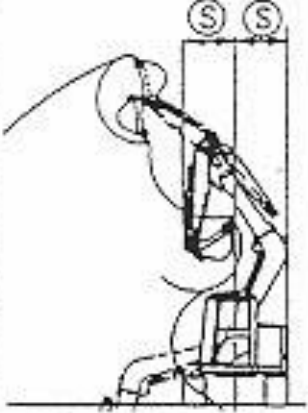
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True Zero Tail Swing

- Work Effectively, without worrying about tail swing
- Boom Swing Bracket stays within the machine width



Advantages of Excavator Types

			Conventional Model	Zero Tail Swing Model	Super Swing Model
					
					
No	Item				
1	Small Turning Radius	Front	Fair	Fair	Superior
		Rear	Inferior	Superior	Superior
2	Visibility From Operator (Backward)		Inferior	Superior	Inferior
3	Comfortability (Operator's Space)		Superior	Fair	Inferior
4	Operating Speed		Superior	Superior	Inferior
5	Stability		Superior	Fair	Inferior

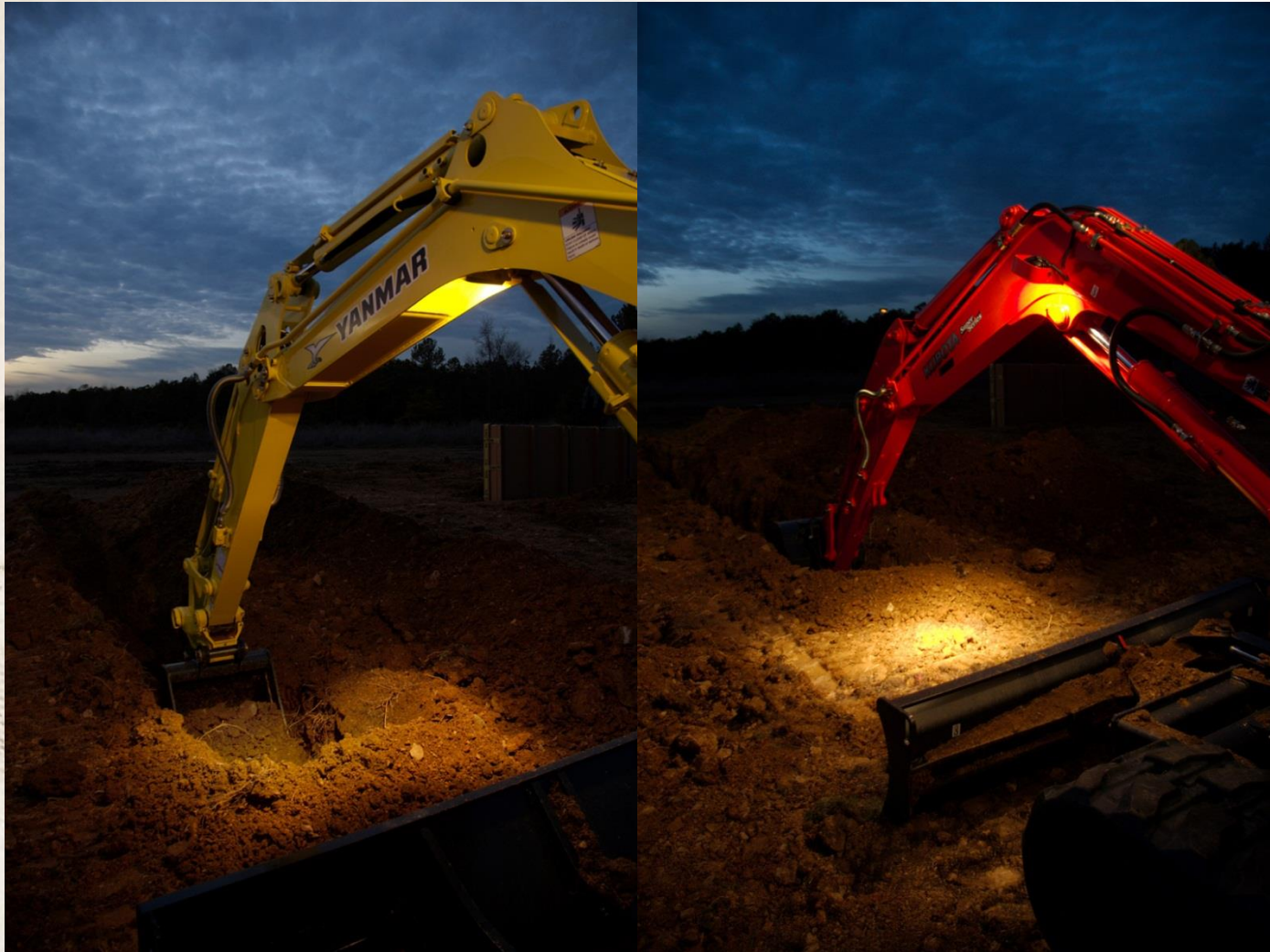
ViO27 – ViO80 (Common Features)

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YAL

Integrated Boom Light



ViO27 – ViO80: Common Features

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No Integrated Boom Light

Protected Hydraulic
Boom Hoses



SINGLE SOLID PIN BOOM MOUNT



Single Pin



Double Pin

Approximate Replacement Cost for Boom Bracket: \$1,800



- Heavy Duty Cylinder Guards
 - Protect cylinders from damage due to debris and attachments
 - Damage cylinder replacement cost: \$2071 (Not including down time)

ViO27 – ViO80: Common Features

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No Cylinder Guards



WALK THROUGH CANOPY



ViO27 – ViO45: Common Features

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2-Speed Foot Control

Hydraulic PTO Floor Control

- Pilot Operated Controls
 - Alleviate operator fatigue
 - Hydraulic PTO Control Integrated into Joystick (ViO27 – ViO45)



ViO27 – ViO45: Common Features

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Efficient Heat & A/C System



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ISO or Optional Pattern Control

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Serviceability for all models



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Development Concept

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Main Development Concept of VIO35-6A was to build a Eco-Friendly Excavator with advanced technology. We installed Tier 4 that complies with emission regulations of the US Environmental Protection Agency (EPA). In addition, we drastically improved fuel efficiency by installing ECO & Decel modes and efficient hydraulic circuit. Advanced ICT System will allow users to have sufficient maintenance.

Eco-Friendly
Tier 4 Engine

Advanced ICT
System

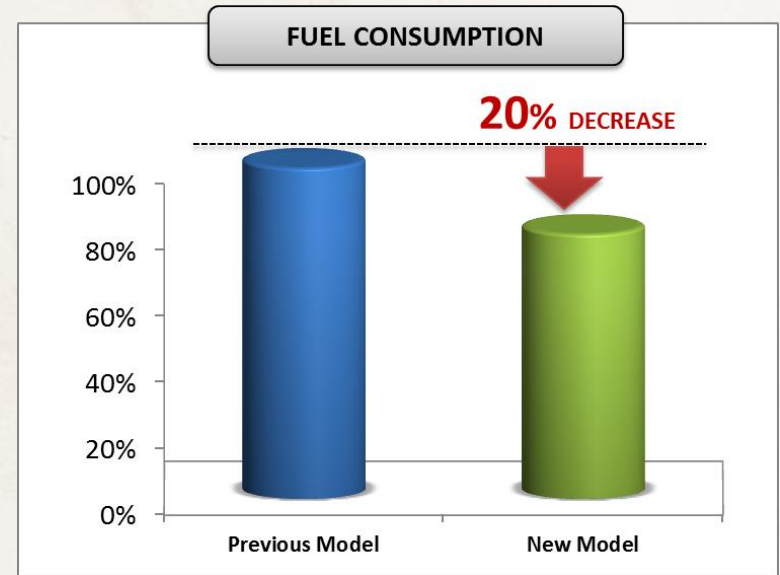
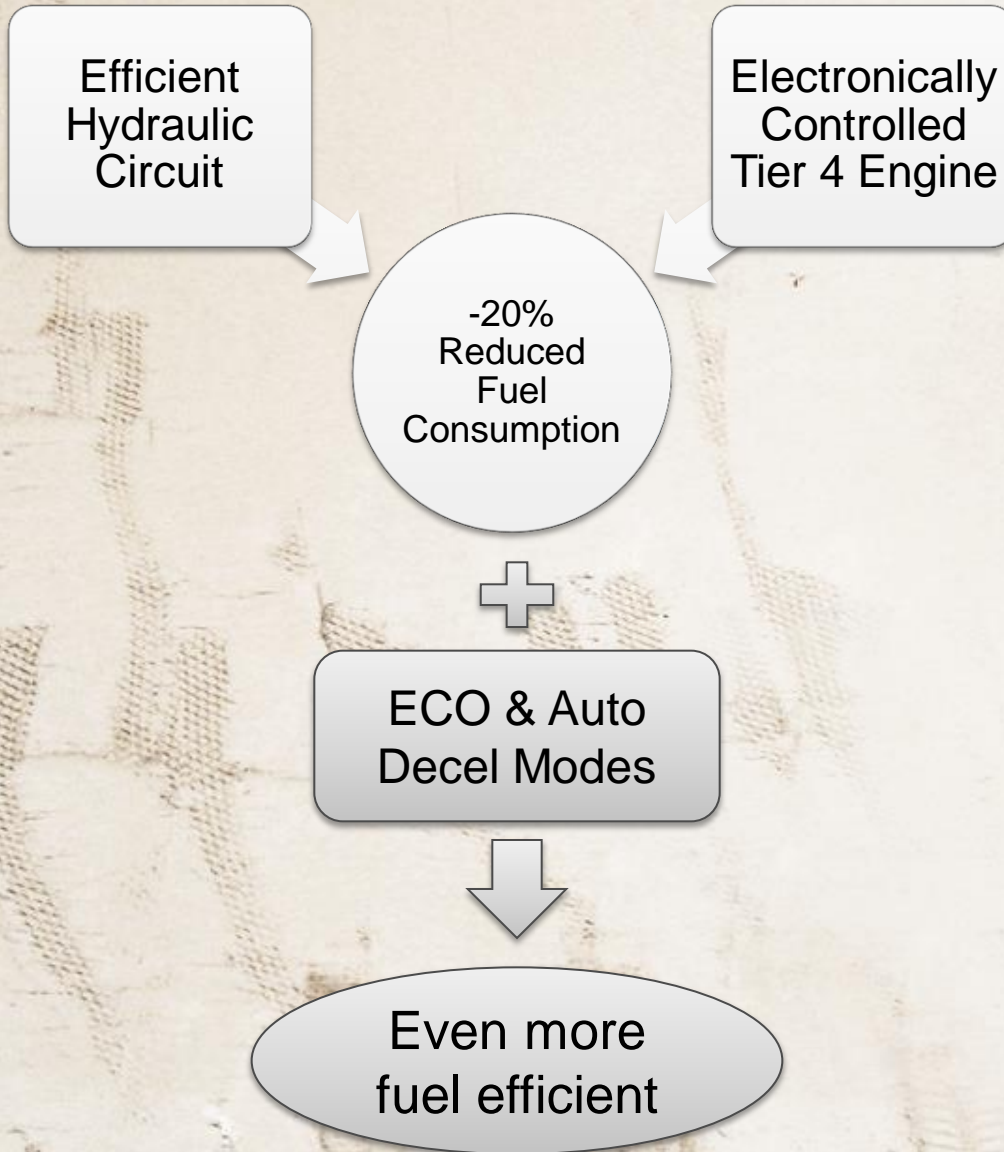
ECO & Decel
Modes

Easy
Maintenance &
Durable



Improved Fuel Efficiency

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VIO35-6A can achieve 20% less fuel consumption comparing to previous model, due to its highly improved hydraulic circuit and electronically controlled Tier 4 Engine. In Addition, ECO & Auto Decel modes enable operator work even more efficient.

Electronically Controlled Tier 4 Engine

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The new ViO comes with a electronically controlled, direct injection diesel engine. With its improved fuel injection system, it meets emission regulations of the US Environmental Protection Agency (EPA) and the European Commission (EC). Its quiet operation makes it both people and eco friendly.

**Electronically
Controlled**

Eco-friendly and
yet powerful

TIER 4



Easy Maintenance & Durability

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With the new ViO design almost every major component can be accessed with one touch for your daily check and maintenance. Troublesome maintenance is now a thing of the past. Take satisfaction in quicker checks and the advanced durability they produce.

Maintenance of major components

Easy maintenance of Engine

Tool box



Full open Bonnet



Lift the seat



Big space tool box



Maintenance & Durability

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Maintenance of hydraulic system



Easy to open



Maintenance of Starter & Generator



Open front cover



Maintenance of Battery



Can be reached easily



Comfort

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Spacious operator space is fully equipped with various convenient features that provide operator with maximum comfort. Fully protected cabin/canopy allows operator to dive into toughest working conditions with great confidence .

Unique comfortable panel



Big cup holder & Utility Box.



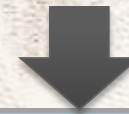
Large Leg Room



Flat floor



Easy to Enter



Easy grip assist Bar



Comfort

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Easy to work even in dark places



Left Hand & Right Hand



Left Hand & Right Hand



Automatic room light



Easy open Bonnet



Easy open Cabin door



ViO45



ViO45

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<u>Performance</u>	<u>ViO45-5</u>
Operating Wt.	10275lb
Engine HP	39.5
Max. Digging Depth	12'8"
Bucket Breakout w/ QC	7255lb

ViO 45-5

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Major Competitor Models vs. ViO45-5

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Kubota U45

- 11,465 lbs
- 11'10" Dig Depth
- 42.0 HP
- True Zero Tail



Kubota KX121-3S

- 9,063 lbs
- 11'6" Dig Depth
- 42.0 HP
- Conventional



Takeuchi TB250

- 10,650 lbs
- 12'5" Dig Depth
- 38 HP
- Conventional

Major Competitor Models vs ViO45-5

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John Deere 50D

- 10,452 lbs
- 11'10" Dig Depth
- 39.9 HP
- True Zero Tail



CAT 304D

- 8,500 lbs
- 10'3" Dig Depth
- 39 HP
- Tight Tail



Bobcat E45

- 10,077 lbs
- 10'10" Dig Depth
- 41.8 HP
- True Zero Tail

ViO55



ViO55

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<u>Performance</u>	<u>ViO55-5</u>
Operating Wt.	11,532lb
Engine HP	39.5
Max. Digging Depth	13'1"
Bucket Breakout w/ QC	8207lb



ViO 55-5

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Major Competitor Models vs. ViO55-5

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Kubota U55

- 11,860 lbs
- 11'10" Dig Depth
- 47.6 HP
- True Zero Tail

Kubota KX57-4

- 12,150 lbs
- 12'8" Dig Depth
- 47.6 HP
- Conventional

Takeuchi TB250

- 10,650 lbs
- 12'5" Dig Depth
- 38 HP
- Conventional

Takeuchi TB153FR

- 12,450 lbs
- 12'10" Dig Depth
- 38.7 HP
- Zero Turn

Major Competitor Models vs ViO55-5

RULE THE JOBSITE.



John Deere 50D

- 10,452 lbs
- 11'10" Dig Depth
- 39.9 HP
- True Zero Tail



CAT 305D

- 11,012 lbs
- 10'8" Dig Depth
- 42 HP
- Tight Tail



Bobcat E50

- 10,677 lbs
- 11'6" Dig Depth
- 48.8 HP
- True Zero Tail

New Engine & Engine Controls

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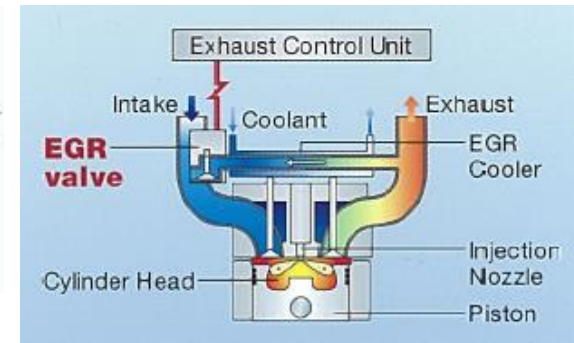
These new models have new Tier 3 (imT4) engine to conform the emissions regulations of the U.S. Environmental Protection Agency(EPA) and the European Commission (EC STAGE 3).

New engine has a Electronically Controlled Water Cooled EGR system, which reduce air-polluting oxides of nitrogen(NOx). EGR system cools a portion of the exhaust gases and mixes them with intake air to lower the concentration of oxygen in air intake.

That drops the combustion temperature, limits NOx emissions, and boosts fuel efficiency.

*EGR : Exhaust Gas Recirculation

(Sv100-1 has T3 engine, ViO80 is imT4)



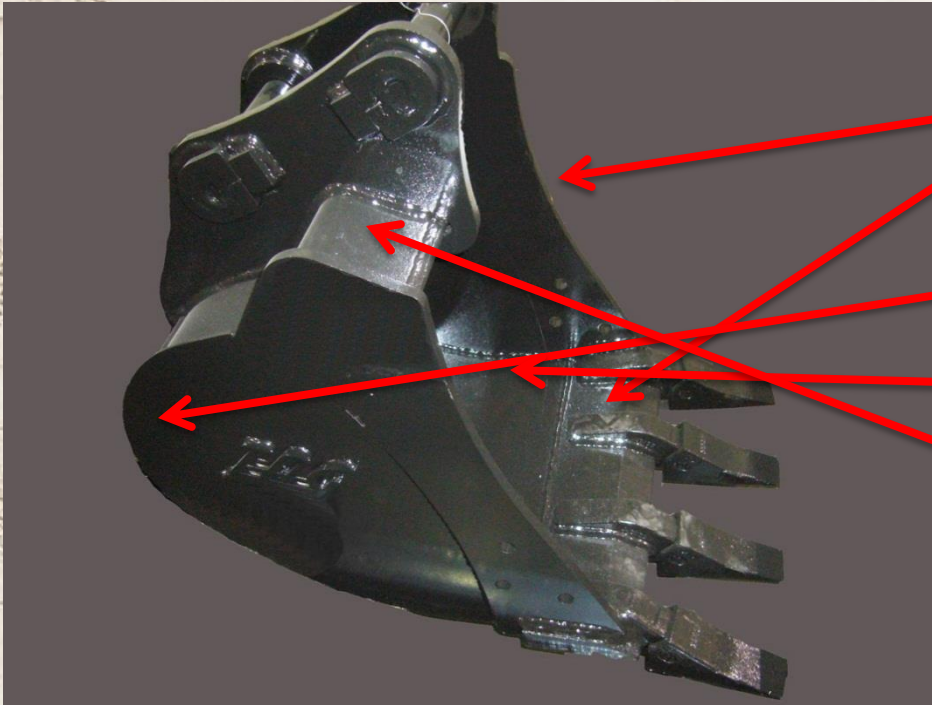
< Comparison chart >

Previous VIO75	NEW VIO80	KUBOTA KX080-3	HITACHI ZX85USB-3	KOMATSU PC88MR-8	NEUSON 8003	JCB 8080ZTS	VOLVO ECR88 PLUS
Tier2&3	Tier3 (interim Tier4)	Tier3 (interim Tier4)	Tier3 (interim Tier4)	Tier3 (interim Tier4)	Tier3	Tier3 (interim Tier4)	Tier2
Previous SV100	NEW SV100-1	KOMATSU PC110R-1					
Tier2	Tier3	Tier2					

TAG Buckets & Thumb Kits

TAG is supplier of:

- trenching buckets
- ditching buckets
- thumb kits
- single-tooth rippers



TAG buckets feature:

- T1 steel on cutting edges both lower & side edges for long-life
- multiple radius bucket back for better spoils clean-out
- trapezoidal bucket shape for better spoils clean-out
- 3-sided upper support provides increased bucket integrity/strength versus round/tubular shaped main top bucket member

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Yanmar Code	A-T30-V35BKP	A-T30-V55BKP
Bucket Width	30 inches	30 inches
Bucket Capacity	0.180 cubic yards	0.230 cubic yards
Bucket Weight	255 pounds	474 pounds
Applications	ViO27 & ViO35	ViO45 & ViO55

TEN BENEFITS of YANMAR EXCAVATORS

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1. Yanmar “Clean & Silent” Engines

1. Powerful, clean, quiet, very reliable operation
2. Outstanding fuel efficiency
3. Easy starting, even in cold weather without block heaters or starting fluid

2. VIPPS Progressive 3-Pump System

1. Efficient multi-function operation
2. Requires less engine power to perform same work
3. Increases engine life
4. Reduces fuel consumption

3. VICTAS Crawler Technology

1. Offset crawler tracks for increased stability
2. Longer tracks for smoother travel
3. Short-pitch tracks for reduced wear, fatigue, & damage
4. Angled crawler frame reduces soil buildup on undercarriage

4. True Zero-Tail Swing

1. No overhang (some competitors have up to 10% overhang)
2. Safer, faster operation
3. Excellent visibility

5. Hydraulic Quick-Coupler (Standard, except SV08, ViO17, B7S)

1. Easy to operate (single-man operation)
2. Increases operator comfort, efficiency & safety

6. Rugged, High-Strength Universal Boom

1. Single boom pin-mount Design
2. No fragile areas
3. Thicker side plates
4. Lines protected inside boom

7. Large, Ergonomic Operator Areas

1. Lowers operator fatigue
2. Increases operator safety & comfort
3. Walk-through compartment saves time (canopy)

8. Auxiliary (PTO) Hydraulic Valve & Piping

1. Standard equipment (saves money, increased re-sale value)
2. Double/Single acting valve (with return to tank) is also standard

9. Heavy-Duty Cylinder Guards

1. On all exposed cylinders (longer life, less downtime, lower repair costs)

10. Overhead Windshield storage (Cab models)

1. Simple to use
2. Protects glass from accidental damage (lowers repair costs)

11. And don't forget about the 3-year or 3,000-hour factory warranty (b2b) on EX & WL

(Dealer inspection changed in 2011 to 1,000-hour and 2,000-hour...no months now)