

Environmental considerations at the design and development stages

At Kubota, we are promoting the introductions of products assessment, in which we evaluate the environmental load of the products in their all life cycle such as design, development, procurement of raw materials and parts, manufacturing, distribution, using, and disposal, and the LCA that was internationally standardized in ISO14000 series. We are making an effort to reduce the load to environment.



The guideline of products assessment

An example of LCA

As a result of the implementation of the LCA of the general-purpose gasoline engine, we found that the load at using stage amounted to 95%. So we are developing the low fuel consumption engine in this regard.

Energy consumption (MJ)

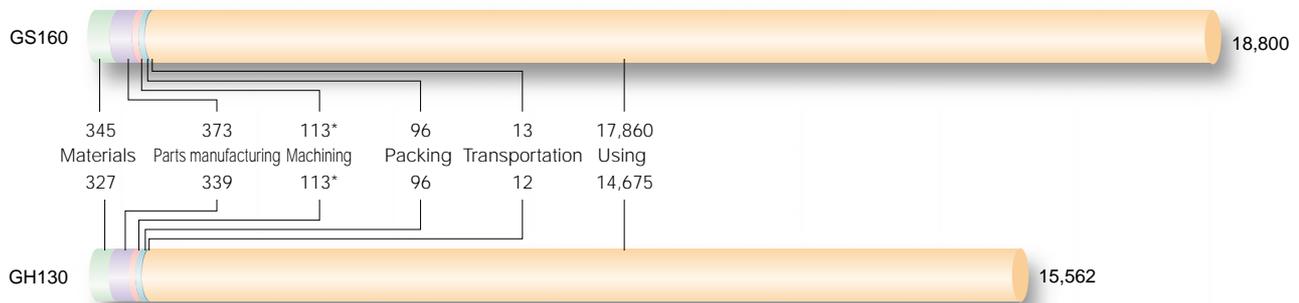
Items	Specification			Lifecycle						
	Output	Fuel consumption	Weight	Materials	Parts manufacturing	Machining	Packing	Transportation	Using	Total
	ps	g/ps-h	kg	Raw materials	Painting	Assembly				
GS160	2.8	290	15.4	345	373	113*	96	13	17 860	18 800
GH130	2.9	230	14.2	327	339	113*	96	12	14 675	15 562
Increase or decrease rate	+4%	-26%	-8%							-17%

*Machining 104.2, Assembly 8.8



Compact general-purpose gasoline engine GH130

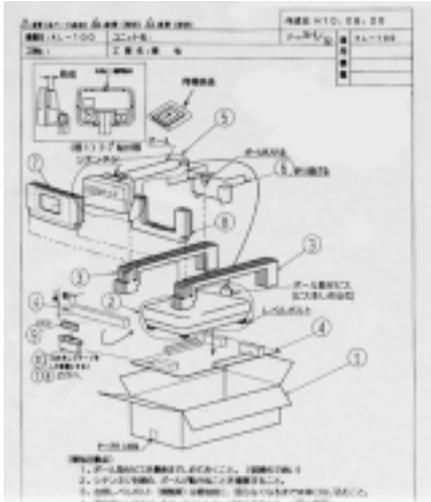
Life cycle energy consumption of air-cooled gasoline engines (MJ)



*Machining 104.2, Assembly 8.8

An example of packing improvement (digital scales)

At Electronic Equipment Division, we improved the packing of mass-produced goods from polystyrol, polyurthane to cardboard.



Prior to improvement (polystyrol packing)



After improvement (cardboard packing)



Kubota digital scales

An example of saving energy, recycle design and noise reduction etc. (automatic vending machine)

In order to reduce noise, we surveyed and found the source of noise, and then we improved the vibration-proof material of the compressor and fan. As a result of these improvements, the noise reduced from 48 dB to 42 dB.

In order to increase the saving energy performance, we improved the heat insulating materials, cooling unit and fluorescent lamps. As a result of these improvements, the electric power consumption reduced by 11%.

In order to promote recycling, we applied board-type heat insulating materials instead of the urethane injection foaming.



Environment-friendly automatic vending machine



Board-type heat insulating material