

calculations are to be shown including proper formats. Grade is based on completeness of work and demonstrating a clear understanding of the issue.

Happily Green has expanded its manufacturing into bio-diesel auto components: fuel systems, exhaust systems, and electrical systems. For the past five years, manufacturing overhead has been applied to products on standard direct labor hours for the units actually produced. The standard cost information is shown below.

	Fuel systems	Exhaust Systems	Electrical Systems
Units produced & sold	10,000	20,000	30,000
Standard labor hours	2.0	1.5	1.0
Standard direct material cost per unit	\$25.00	\$36.00	\$30.00
Budgeted an actual manufacturing overhead		\$3,920,000	

The direct labor rate is \$10 per hour. New machinery that highly automates the production process was installed two years ago and greatly reduced the direct labor time to produce the three products. The selling price for each of the three products is 125% of the manufacturing cost.

Happily Green's segment of the bio-diesel auto industry has become very competitive, and the company's profits have been decreasing. Casper Oil, Happily Green's controller, has been asked by the CEO to analyze the overhead allocations and pricing structure. Oil thinks that future allocations should be based on machine hours an direct labor hours rather than the current allocation method, which is based on direct labor hours only. Oil has determined the additional product information shown below.

	Fuel systems	Exhaust Systems	Electrical Systems
Standard Machine Hours	2.0	4.0	6.0
Manufacturing Overhead:			
Direct labor hours		\$ 560,000	
Machine hours		\$3,360,000	